

# Nostratic Centennial Conference: the Pécs Papers

*edited by*  
*Irén Hegedűs and Paul Sidwell*







NOSTRATIC CENTENNIAL CONFERENCE:  
THE PÉCS PAPERS



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Edited by

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*University of Pécs*                      *Australian National  
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## CONTENTS

Introduction: A Hundred Years of Nostratic	ix
<i>Václav Blažek</i>	
Indo-European and Afroasiatic Prepositions and Related Words: Common Heritage or a Result of Convergence?	1
<i>Allan R. Bomhard</i>	
Preliminary Thoughts on Nostratic Morphology	27
<i>Paul S. Cohen</i>	
Relationships Between Initial Velar Stops and Laryngeals In PIE	51
<i>Ronald A. Coleman</i>	
Nostratic, Quo Vadis?	63
<i>Anna V. Dybo</i>	
Some Peculiarities of Altaic Reflexes of Nostratic Sibilants	85
<i>Vladimir A. Dybo</i>	
On Illič-Svityč's Study "Basic Features of the Protolanguage of the Nostratic Language Family"	115
<i>Iván Hegedűs</i>	
The Status of the Proto-Nostratic Postvelar * <i>g</i>	121
<i>Robert D. King</i>	
Conflicting Theories of the Origins Of Yiddish: Possible Lessons for Nostratic Methodology	135
<i>János Makkay</i>	
Before Indo-European and Uralic	143
<i>Peter A. Michalove</i>	
Vowel Harmony and other Forms of Vocalic Assimilation in Mongolic	165
<i>Shamil Nafiqoff</i>	
The Australian Aboriginal Languages Correlate with the Nostratic Phylum	175
<i>Vitaly Shevoroshkin</i>	
Proto-Salishan and Proto-North-Caucasian Consonants: a few Cognate Sets	181
<i>Gábor Takács</i>	
Afrasian and Nostratic: Addenda to the Nostratic Root List of A. B. Dolgopolsky (1991)	193



## INTRODUCTION

### A HUNDRED YEARS OF NOSTRATIC: MILESTONES IN THE DEVELOPMENT OF THE HYPOTHESIS

**Irén Hegedűs and Paul Sidwell**

1903 was the year of the first appearance of the term *Nostratic* in the oft-quoted article by Holger Pedersen. It was not the first time that the distant genetic relations of Old-World language families had been discussed, but the coining of a name along with Pedersen's forceful arguments for, at least, a solid connection between Indo-European and Uralic, clearly marked the birth of Nostratic in a programmatic sense. In 2003, the *Nostratic Centennial Conference* was held at the University of Pécs, Hungary, commemorating the hundred years of progress in Nostratic research. Papers from that conference are the basis of this volume, some of which contribute directly to Nostratic scholarship, while some discuss other hypotheses of long-range relationship or seek to make wider methodological contributions.

Being a notion of great scope and boldness, the Nostratic hypothesis has always faced enormous challenges. For the early decades after its birth Nostratic had a rather difficult childhood, but then began to assume a more mature state of development as its adolescence dawned in the early 1960s, for it was then that two linguists at the Moscow Academy started to investigate the possibility of proving the distant genetic relationship of some language families of Eurasia. The story of how the young scholars, V.M Illich-Svitych and A.B. Dolgopolsky, began their investigations independent of each other is famously detailed by Rimma Bulatova (1989). The former was working on etymological comparison of language families, while the latter was focusing on probabilistic methods in demonstrating distant relations when they fortuitously became aware of each other's work. Despite the premature passing of Illich-Svitych, the subsequent emergence of the 'Moscow Nostratic School' proved tremendously productive, and a solid foundation for progress was established.

The *Bibliographia Nostratica* (Hegedűs 1992<sup>1</sup>) demonstrates the growing vitality of the field between 1960 and 1990, with 45 pages of publications on Nostratic in the period listed. The literature has been growing so intensively since then that what is really needed is a continuously updated on-line database. To this end we invite authors to send their annual list of publications and other additions to Irén Hegedűs, so that we may develop a really useful on-line resource.

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<sup>1</sup> Also available at <http://www.btk.pte.hu/tanszkek/angol/nyelveszeti/hegedus/>.



The last two decades saw a new phase in Nostratic scholarship, as conferences dedicated to the topic began to be held and their proceedings published. In particular the Ann Arbor Symposium on Language and Prehistory (Michigan, November 1988) was a catalyst in the progress of research in this field, and the materials of the conference were published in several volumes (Shevoroshkin ed. 1989a, 1989b, 1990, 1992).

Other meetings and proceedings volumes have followed, of particular note:

- The Second Workshop on Comparative Linguistics (East Michigan University, Oct. 1993), out of which eventually emerged Salmons-Joseph (1998), for a report on the meeting see Hegedűs (1993). That volume also includes papers by linguists who did not attend the meeting.

Conferences in Moscow:

- 1990 commemorating the 55<sup>th</sup> birthday of V.M. Illich-Svitych (Dybo-Bulatova eds. 1990)
- 1991 celebrating the 60<sup>th</sup> birthday of V.A. Dybo (Bulatova et al. eds. 1991)
- 2000 in memory of V.M. Illich Svitych and D.I. Djakonov (cf. Starostin-Starostin eds. 2000).

It is the usual tendency that progress involves the emergence of different schools of thoughts – some ideas may be developed considerably in isolation before contact is made, or scholars may differ in their analyses of the same or similar data, and strike out on divergent courses. The (by now classical) ideas of Illich-Svitych were developed and modified by some, and partly rejected by others. Differences in analysis can be partly explained by the more recent results obtained in the study of Nostratic daughter languages (e.g. the glottalic reinterpretation of the Proto-Indo-European stop system), and partly due to the conflicting views on classification. In respect of the latter, the most important difference of opinion is primarily over the status of Afroasiatic – is it a daughter language or a sister language of Nostratic? The former, traditional view has been challenged primarily by Sergei Starostin (cf. Starostin 1989 and later works) and by the late Joseph Greenberg, who was inclined to keep not only Afroasiatic but also Dravidian outside his “Eurasianic” macrofamily (cf. Greenberg 1998, 2000). The growing body of literature also includes a stridently critical tendency that in itself demonstrates the engagement with wider historical-comparative linguistic circles.

There are major spin-offs in linguistic research following the advance of Nostratic studies. One is the promotion of investigating areas that were earlier neglected but from which data are crucial as input to Nostratic comparison, e.g. reconstruction in the area of Altaic or Afroasiatic languages. Another is the increase of interest more generally in interphyletic linguistic comparison – as a result we can

see progress in the field of other emerging macrofamilies, e.g. Sino-Caucasian - and in the methodological difficulties involved in the reconstruction of linguistic stages at greater than usual time depths. These questions were at the center of discussion during the international meetings organized by the McDonald Institute for Archaeological Research in Cambridge, England. The first such meeting was devoted to the discussion of Dolgopolsky 1998 (proceedings edited by Renfrew and Nettle 1999), the second to the issues of time depth (see Renfrew-MacMahon-Trask eds. 2000).

Nostratic has also generated considerable interest in the capacity of linguistics, or more precisely paleolinguistics, to inform other disciplines researching human history and origins. For example, in 2002 a Festschrift was published for Aharon Dolgopolsky (Shevoroshkin-Sidwell 2002), which not only contained papers on Nostratic but also various investigations into the non-Indo-European languages of classical Europe. Results which potentially identify the genetic affiliations of old European languages can have significant implications for our understanding of the late prehistoric world.

The future evolution of research into distant genetic relations is likely to be promoted along the following tracks:

- since the Indo-Uralic hypothesis enjoys the prestige of having some feasibility even in the eyes of those who flatly reject the Nostratic theory, recurring evaluation of the correspondences between the Indo-European and the Uralic language families is highly important, even if limiting the investigation to these two families can obviously provide only a deficient picture of the historical linguistic situation. The questions of what can or cannot be considered a borrowing among the numerous Indo-Uralic correspondences and how these correspondences fit into the archaeological realia are fortunately revisited at conferences (e.g. Ivanov-Sudnik-Helmskij 1990, Keresztes-Maticsák 1990, Carpelan-Parpola-Koskikallio 2001).

- in the past 2 decades relevant societies were founded (publishing newly established periodicals) with the aim of promoting research in this direction. The persistent work of the *Association for the Study of Language in Prehistory* (USA) has been of tremendous importance in discussing issues of long-range genetic relationship among languages of the world. The ASLIP periodical *Mother Tongue* has devoted special issues to the discussion of paleolinguistics and problems that go even beyond the Nostratic hypothesis (see <http://www.people.fas.harvard.edu/~witzel/aslip.html> for more details). Furthermore, from 1993 to 2003 the Melbourne based *Association for the History of Language* published a significant contribution in its periodical *Dhumbadji/History of Language* and a series of books (*Studies in the Science and History of Language*). In 1995 a significant forum for the discussion of long-range linguistic relationship, the *Moskovskij Lingvisticheskij Zhurnal* [The Moscow Linguistic Journal] was launched.

- the Santa Fe Institute launched the *Evolution of Human Languages* project a few years ago, the on-line database created and maintained by the institute

is going to facilitate the study of hypotheses of distant genetic relationship between language families and the establishment of further phyla beyond Nostratic (for details see <http://www.santafe.edu> or <http://starling.rinet.ru/index2.htm>).

Forthcoming highlights we are eagerly anticipating include the new Nostratic dictionary by Aharon Dolgopolsky to be published in Cambridge (England) and the Nostratic grammar and vocabulary by Allan R. Bomhard. We are also hopeful that more chapters from the notes of V.M. Illič-Svityč will become accessible in print and also in English translation.

So as we now begin the second century of Nostratic scholarship we can see that a solid foundation for progress, based upon a large and growing body of published research, accompanied by a lively critical tendency, now exists. To this body we are pleased to add the present volume, and we extend our thanks and encouragement to the contributors and conference participants who made it possible.

## References

- Bljumhen, S.I. et al. (eds.) 1989. *Lingvističeskaja rekonstrukcija i drevnejšaja istorija Vostoka. Vols. 1-3*. Moscow: Institut Vostokovedenija AN SSSR.
- Bomhard, Allan R. - John C. Kerns. 1994. *The Nostratic Macrofamily. A Study in Distant Linguistic Relationship*. Berlin - New York: Mouton de Gruyter.
- Bomhard, Allan R. (forthcoming) *Reconstructing Proto-Nostratic: Comparative Phonology, Morphology, and Vocabulary*
- Bulatova, Rimma V. 1989. *Illič-Svityč: A biographical sketch*. In: Shevoroshkin (ed.) 1989a, pp.14-28.
- Bulatova, Rimma V. - G. I. Zamjatina - S. L. Nikolaev (eds.). 1991. *Slavistika, indoevropaistika, nostratika. Tezisy dokladov. [Slavic, Indo-European and Nostratic Studies]* Moscow: Institut slavjanovedenija i balkanistiki Akademiji nauk SSSR.
- Carpelan, Christian - Asko Parpola - Petteri Koskikallio (eds.). 2001. *Early Contacts between Uralic and Indo-European: Linguistic and Archaeological Considerations*. Helsinki: Suomalais-Ugrilainen seura.
- Dolgopolsky, A. 1998. *The Nostratic Macrofamily and Linguistic Palaeontology*. Cambridge: The McDonald Institute for Archaeological Research.
- Dybo Vladimir A. - Rimma V. Bulatova (eds.) 1990. *Sravnitel'no-istoričeskoe jazykoznanie na sovremennom etape. Pamjati V.M. Illič-Svityča. Tezisy dokladov*. [Historical comparative linguistics at present. To the memory of V.M. Illič-Svityč. Abstracts.] Moscow: Institut slavjanovedenija i balkanistiki Akademiji nauk SSSR.
- Greenberg, Joseph. 1998. „The Convergence of Eurasiatic and Nostratic”. In: Salmons-Joseph (eds.), pp. 51-60.



- Greenberg, Joseph. 2000. *Indo-European and Its Closest Relatives: The Eurasiatic Language Family. Vol.1: Grammar*. Stanford, Cal.: Stanford University Press.
- Hegedűs, Irén. 1992. *Bibliographia Nostratica 1960-1990: A List of Publications on, or Relevant for Nostratic Studies*. Specimina Sibirica vol. 4. Savariae (Szombathely), 1992.
- Hegedűs, Irén. 1993. "Report on the Ypsilanti Meeting, Eastern Michigan University, October 1993". *The Linguist List* (<http://engserve.tamu.edu/files/linguistics/linguist/archives.html>)
- Ivanov Vjacheslav V. - T.M. Sudnik - E.A. Helimskij (eds.) 1990. *Uralo-Indogermanica. Vols.1-2*. Moscow: Institut slavjanovedenija i balkanistiki Akademiji nauk SSSR.
- Keresztes, László – Maticsák, Sándor (eds.) 1990. *Congressus Septimus Internationalis Fenno-Ugristarum. Vol.1: Sessiones Plenares*. Debrecen.
- Pedersen, Holger. 1903. „Türkische Lautgesetze”. *Zeitschrift der deutschen Morgenländ-ischen Gesellschaft* 57: 535-561.
- Renfrew, Colin. 1998. „Introduction: the Nostratic Hypothesis, Linguistic Macrofamilies and Prehistoric Studies”. In A. Dolgopolsky: *The Nostratic Macrofamily and Linguistic Palaeontology*. Cambridge: The McDonald Institute for Archaeological Research, pp. vii-xxii.
- Renfrew, Colin – Daniel Nettle (eds.). 1999. *Nostratic: Examining a Linguistic Macrofamily*. Cambridge: The McDonald Institute for Archaeological Research.
- Renfrew, Colin – April MacMahon - Larry Trask (eds.). 2000. *Time Depth in Historical Linguistics*. 2 vols. Cambridge: The McDonald Institute for Archaeological Research.
- Salmons, Joseph C. – Brian D. Joseph (eds.). 1998. *Nostratic: Sifting the Evidence*. Amsterdam -Philadelphia: Benjamins.
- Shevoroshkin, Vitaly V. (ed.) 1989a. *Reconstructing Languages and Cultures. Abstracts and Materials from the First International Interdisciplinary Symposium on Language and Prehistory, Ann Arbor, 1988*. Bochum: Universitätsverlag Brockmeyer. (Bochum Publications in Evolutionary Cultural Semiotics, Vol. 20.)
- Shevoroshkin, Vitaly V. (ed.). 1989b. *Explorations in Language Macrofamilies. Materials from the First International Interdisciplinary Symposium on Language and Prehistory, Ann Arbor, 1988*. Bochum: Universitätsverlag Brockmeyer. (Bochum Publications in Evolutionary Cultural Semiotics, Vol. 23.)
- Shevoroshkin, Vitaly V. (ed.) 1990. *Proto-Languages and Proto-Cultures. Materials from the First International Interdisciplinary Symposium on Language and Prehistory, Ann Arbor, 1988*. Bochum: Universitätsverlag Brockmeyer. (Bochum Publications in Evolutionary Cultural Semiotics, Vol. 25.)
- Shevoroshkin, Vitaly V. (ed.) 1992. *Nostratic, Dene-Caucasian, Austric and Amerind. Materials from the First International Interdisciplinary Symposium on Language and Prehistory, Ann Arbor, 1988*. Bochum:

- Universitätsverlag Brockmeyer. (Bochum Publications in Evolutionary Cultural Semiotics, Vol. 33.)
- Shevoroshkin, Vitaly – Paul Sidwell. (eds.) 1999. *Historical Linguistics and Lexicostatistics*. Melbourne: Association for the History of Language, Studies in the Science and History of Language vol.3.
- Shevoroshkin, Vitaly – Paul Sidwell. (eds.) 2002. *Languages and their Speakers in Ancient Eurasia. Dedicated to Prof. Aharon Dolgopolsky on his 70<sup>th</sup> Birthday*. Melbourne: Association for the History of Language, Studies in the Science and History of Language vol. 5.
- Starostin, Sergei A. 1989. "Nostratic and Sino-Caucasian". In: Bljumhen et al (eds.) 1989, vol. 1, pp.106-124.
- Starostin, Sergei A. - G.S. Starostin. (eds.) 2000. *Problemy izuchenija dal'nego rodstva jazykov na rubezhe tet'ego tysjacheletija. Doklady i tezisy konferenciji. [Problems in the study of the distant genetic relationship of languages at the beginning of the third millennium]*. Moscow: Rossijskij gosudarstvennyj gumanitarnyj institut.

# INDO-EUROPEAN AND AFROASIATIC PREPOSITIONS AND RELATED WORDS: COMMON HERITAGE OR A RESULT OF CONVERGENCE?

Václav Blažek

IA. The prepositions (& postpositions) of the later Indo-European languages, usually also functioning as preverbs, express the elementary spatio-temporal relations. They are usually formed from primary substantives or adjectives in certain case-forms (Be 218). The following nominal case-forms can be identified in the Indo-European prepositions:

root	nom.	gen.-abl.	acc.	dat.	loc.	instr.
	*-s	*-és / *-ós	*-e/om / *-m	*-éi	*Ø / *-i	*-éH <sub>1</sub>
*H <sub>1</sub> ep- <sup>1)</sup> "near"	*H <sub>1</sub> ǵp-s	*H <sub>1</sub> p-ós	*H <sub>1</sub> op-m	*H <sub>1</sub> p-éi	*H <sub>1</sub> ép(-i)	
*H <sub>1</sub> enu- <sup>2)</sup> "without"	*H <sub>1</sub> ǵnu(-s)		*H <sub>1</sub> néu-m		*H <sub>1</sub> neu ?	
*perH <sub>a</sub> - <sup>3)</sup> "over"	*pérH <sub>a</sub> -s > *pérH <sub>a</sub> -os	*p <sub>ǵ</sub> H <sub>a</sub> -ós	*perH <sub>a</sub> -em/om	*p <sub>ǵ</sub> H <sub>a</sub> -éi	*pérH <sub>a</sub> (-i)	*p <sub>ǵ</sub> H <sub>a</sub> -éH <sub>1</sub>
*senH- <sup>4)</sup> "without"	*sénH-s	*spH-ós		*spH-éi	*sénH-i	
*terH- <sup>5)</sup> "through"	*térH-s	*t <sub>ǵ</sub> H-és/-ós			*treH-i	

Notes: The symbol \* instead of the asterisk (\*) indicates the hypothetical forms without any safe material support. 1) See Hamp 1981, 47. 2) See Blažek, *HS* 112[1999], 199-200; the paradigm corresponds to \*pélH<sub>1</sub>-u(-s) "many", acc. \*p<sub>ǵ</sub>H<sub>1</sub>éu-m postulated by Beekes 1985, 166. Hamp (*JIES* 10[1982], 187-92) reconstructs \*H<sub>1</sub>enH<sub>1</sub>u- : \*H<sub>1</sub>ǵH<sub>1</sub>eu-. 3) See P 811-13 & Hamp 1997, 47-48. His derivation from the verb attested in Hitt *parh*- "drive out" is attractive, but it remains to explain the absence of any laryngeal in the Anatolian prepositions. 4) Hackstein (1997, 54) determines *H* = \*H<sub>2</sub>, proposing the starting point \*senH<sub>2</sub>- > Hitt *sanna*- "verheimlichen, verschweigen" (after Oettinger); cf. also Olr *sann*- "séparer, aliéner" (Vendryes 1974, S-25). Beekes (1995, 221) and Schrijver (1995, 117) reconstruct *H* = \*H<sub>1</sub>. 5) Beekes (1995, 221) reconstructs *H* = \*H<sub>2</sub>, while Schrijver (1995, 74, 87) prefers *H* = \*H<sub>1</sub>. It is generally accepted to derive these forms from IE \*terH- "überqueren" (P 1074-76). Hitt *tarh*- "siegen, mächtig sein; können" with -h- indicates IE \*H<sub>2</sub>/s.

IB. For other forms the adjectival & adverbial derivative suffixes are characteristic, although some extensions represent the same fossilized case endings analyzed above:

form / extension	*-s	*e <sub>s</sub> /-os	*-i	*-b <sup>h</sup> i	*-ti /-tH <sub>a</sub>	*-tos	*-t(e)r-	*-(e/o)r-	*-il-	*-(i)[ŋ]m-
*H <sub>eed</sub> - "to"	+								+	
*H <sub>ieg</sub> <sup>h</sup> s "out"	+					+	+			+
*H <sub>ien</sub> -/*H <sub>ion</sub> - "in"	+		+			+	+			+
*H <sub>iep</sub> -/*H <sub>iop</sub> - "by, near"	+		+					+		+
*H <sub>io</sub> b <sup>h</sup> i "at" < *H <sub>io</sub> p-b <sup>h</sup> i				+						
*H <sub>iet</sub> -/*H <sub>iot</sub> - "over"	+?		+							
*H <sub>2en</sub> -H <sub>a</sub> /u "on"										
*H <sub>2en</sub> -b <sup>h</sup> i "around"				+						
*H <sub>2en</sub> -ti/tH <sub>a</sub> "facing"					+					
*H <sub>4epo</sub> "behind"							+	+		+
*H <sub>4et</sub> - "beyond"		+	+							
*H <sub>4eyo</sub> "away"		+						+		+
*(H)ūd- "up"	+						+			+
*(H)upo "under"	+							+	+	+
*b <sup>h</sup> e-(ġ <sup>h</sup> -) "without"										
*dē /*dō "to"										
*ġ <sup>h</sup> ō "behind"										
*k <sup>u</sup> u "to"										
*kom "with"					+		+			
*kŋ-tH <sub>a</sub> /-ti "by, with"					+			+		
*me(-)d <sup>h</sup> i "in the middle"		+	+							+
*me-ġ <sup>h</sup> (s)ri "near"			+							
*me-tH <sub>a</sub> /-ti "between"					+					
*(H)pd <sup>h</sup> i "over" / "under"		+	+					+		+
*ni "downwards"	+		+				+			+
*pe-/*po- "after, away"		+			+					
*pro "before, ahead"					+		+			+

Notes: The symbols for laryngeals were used as follows:  $*H_e-$  > late IE  $*a-$  without any Anatolian correspondence;  $*H_1e-$  > late IE  $*e-$  ~ Anat  $*e-$ ;  $*H_2-$  > late IE  $*a-$  ~ Anat  $*ha-$ ;  $*H_3-$  > late IE  $*o-$  (non-apophonic) ~ Anat  $*ha-$ ;  $*H_4e-$  > late IE  $*a-$  ~ Anat  $*a-$ .

II. The prepositions are used in all branches of Afroasiatic. The situation is best known in Semitic, thanks to early written records, frequently including vocalization. In the last three decades on the Semitic prepositions Pennacchietti (1974) and Voigt (1999) have published two important articles, plus the article of Limet (1984) devoted to the prepositions in Eblaic. Prepositions represent a specific category in Semitic. The most part of them are of nominal origin, most frequently in the adverbial accusative (Brockelmann 1908, 494; Voigt 1999, 23), but also in genitive and locative or terminated by the adverbial ending. The illustrative examples are chosen especially from Akkadian:

Accusative in  $*-a(m)$ : Akkadian *ina* "in, on, by, from"; *ana* "to, for";

Genitive in  $*-i(m)$ : Arabic *fī* "in" (Voigt 1999, 40: ellipsis from *bi fī-i* "in the opening"?);

Locative in  $*-āma$  (> Akkadian & Eblaic *-um*, el-Amarna *-ama*, etc., see Dolgopolsky 1991, 332): Old Akkadian *ištum* "from" (GAG §114k), *adum* "untill, as far as", *ittum* "with" (CDA 4, 136);

Adverbial ending in  $*-ay$  (GAG §113k): Old Akkadian pre-Sargonian *ašte/i*, *ište*, later *išti* "with", Akkadian *adi* "untill, as far as", *eli* "on, over, above; against", *itti* "with" (GAG §114l, j, p, q).

### III. Indo-European - Afroasiatic parallelism in prepositions

#### 1. IE $*H_{1en}-$ "in" ~ AA $*?in-a$ "in"

a)  $*en$ ,  $*p-$ ,  $*eni$ ,  $*ni-$  "in" (B 827-33; P 312) =  $*H_{1en}$  "in" (Be 221) =  $*H_{1en}(i)$  "in, into" (EIEC 290) > OInd *ānīka-* "Angesicht, Aussehen, Erscheinung; Vorderseite, Spitze; Reihe, Zug"; Av *ainika-* "Antlitz, Stirnseite, Vorderseite"; ZorPhl *ānīk* "front", Pers *peš-ānī* "forehead", Khot *ṃā* "in presence of, from", *ṃāka* "id., vicinity" (Bailey 1979, 31) <  $*eni-H_3k^h-$  (EWAI I, 73), besides *ni-* "hinein" in OInd *nīgam-*, Av *nigam-* "in einem Zustand gelangen", OInd *ni-já-* "eingeborenen, innewohnend, eigen", Av *ni-zənta-* "eingeboren, ingenuus" (EWAI II, 42) || Hitt *in-* in *innarā-* "strong, violent" <  $*en-(H)nor-ó-$  ~ Luw *ānnara-* "vigorous" <  $*én-(H)nor-$  (Melchert 1994, 135, 139, 263), besides Hitt *ne-/ni-* in *negna-*, *-nigna-* "brother" <  $*ni-ḡnH_{1o}-$ , cf. Ogam-Ir *ini-gena* "daughter" (Neumann, HS 104[1991], 63-66, Sprache 38[1996/98], 7-9); Lyd preverb *ēn-* "in(to)" (Melchert 1994, 348) || Arm *i*, before vowel *y* & *n-* "in" (with loc. & acc.) || ? Thracian (Kjolmen inscription, Bulgaria) *eni* "hinein" in *eni.dakatro* "soll hineingelegt werden" (Schmitt-Brandt, *Glotta* 45 [1967], 45, 59) || ? Phryg preverb *eni-* in OPhryg *eni.pakraj*, NPhryg *ενε.παρκες* (Neroznak 1978, 89, 128) || Maced *iv* in *ivδέω*: *μεσημβρία* (Hesych.) = Gr *ἐνδία* id. (Hesych.), *ἐνδιος* "mittäglich" <  $*en-d_{1e}mo-\bar{a}$  (Ködderitzsch 1985, 32) || Gr *ἐν*, dial. *iv*, poet. *ἐνι*, *ἐνί* "in", cf. Myc *e-ni* & *e-ni-qe* = *σνι τε* (Aura Jorro 1985, 220), with *s*-extension epic Ion, Att, Lesb *εἰς*, Cret, Arg *ἐνς*, besides *ᾱ-* ( $*p-$ ), e.g. in *ᾱ-λέγω* || Alb *n-* "in, on", *inj* "bis" <  $*en_i$  || Messap *in* "in" (Haas 1962, 168, 214) || OLat *en*, later *in*; Osc *en*, Umb *en-* in e.g. *en-dendu* "intendito", also as postposition Osc *-en*, Umb *-e(m)* (adnom. with dat. = loc., acc. & gen.) || Gaul *en-* in

*essedon* "Streitwagen", *embrekton* "eingetauchter Bissen", besides *in-* in *in-sinde* (Larzac) < *\*en(i)-smd<sup>h</sup>e* "in diesen", cf. the full form *eni-* in onomastics: *Eni-geni*, *Eni-boudios* (K.H. Schmidt 1996, 34-35); OWelsh, OBret *en*, *in* "in", Corn, Bret *en*, Welsh *yn*; OIr *in-* "in" (adnom. with dat. & acc.), *in-* (with lenition from *\*eni*, cf. *ingen* < Ogam *ini-gena* "Tochter"); Celtib *en(i)* prep. "in": (Peñalba de Villastar) *eni.orosei* "auf dem Berg" (Meid 1996b, 14) & pref. in dat. sg. *eniTousei* "veneration, offering" < *\*eni-dous-* (Eska 1989, 64) || Goth *in* "in" (adnom. with dat., acc., gen.), OIc *í*; OEng, OSax, OHG *in* id. (adnom. with dat., acc.); cf. also Goth *inn* "hinein" < *\*eni-n-* || OPr *en* "in" (adnom. with dat. & acc.); Lith arch. & dial. *in(t)*, later *ĩ*, (*\*H<sub>1</sub>p*) "in" (adnom. with loc. & acc.), Latv *ie-* || OChSl *въ, вѣн-* "in" (adnom. with loc. & acc.) < *\*p*; the reflex of *\*en-* can be found in *\*(j)ędro* "kernel" derivable from *\*en-dr(ū)om* "in wood", cf. Gr (Hesych.) *ἐνδρῶν καρδία δένδρου* (Blažek 2000, 357) || Toch AB prefix *y(n)-*, B *in-* "in, among" (see Hilmarsson 1991 with a detailed analysis).

b) *\*on* "in" (EIEC 290: *\*H<sub>1</sub>on*) > Hitt *an-* "in" in *anturiyas* "interior", *andurza* "within" < *\*H<sub>1</sub>on-d<sup>h</sup>ur-s* "in-doors" (EIEC 168) || OChSl prefixes as *on-ušta* "Schuhwerk", *o-dolb* "Tal" || Toch B *enem* "within", A *-am* "in, to".

c) *\*entos* > Gr adv. & prep. *ἐντός* "innen, drinnen, innerhalb" || Lat *intus* "von innen".

d) *\*ent[ɥ]mo-* > OInd *ántama-* "vertraulichst, nächst, sehr lieb" = Av *ąntəma-* "vertrautest, intimst; innerst" || Lat *intimus* "innerst, vertrautest" (EWAI I, 75).

e) *\*enter*, *\*gter* "zwischen - hinein" (B 833-35; P 313-14) = *\*H<sub>1</sub>enter* "between, inside" (Be 221)

OInd *ántár* "innen, hinein, zwischen", Av *ąntarə* "zwischen" (adnom. with loc., instr., acc., gen.), OPers *antar* <atr> "durch, unter, in", ZorPhl *andar* (EWAI I, 76); OInd *ántara-* "innerlich", Av *ąntara-* "innerer", Khot *handara-* "within, interior", Yidgha (*n*)*adram* "inside" (Bailey 1979, 453); cf. also OInd *antrá-* & *vṛddhi āntrá-* "Eingeweide" || Arm *əndər-k'* pl. "Eingeweide" || Gr *ἐντέρον* "Eingeweide" || Alb *nder* "zwischen, in", *ndjer* "bis" < *\*entero-* || Messap *atar-* < *\*gter* (Haas 1962, 210) || Lat *enter*, *inter* "zwischen, in" (adnom. with acc.); Osc *Entraí* "*\*Interae*", *anter* "inter", Umb *anter*, *ander* "während" (adnom. with loc. & acc.) < *\*gter* || Gaul *inter ambes* "inter rivōs"; OWelsh *ithr* "inter", Corn *ynter*, *yntre*, Bret *entre*; OIr *eter*, *etir*, *etar* "zwischen" (adnom. with acc.); Celtib *enTaṛa* "within" < Celt *\*entrād* (Eska 1989, 66) || OHG *untar* "zwischen" (different from *untar* "unterhalb" < Gmc *\*under* < *\*n<sup>d</sup>er*), cf. Goth *undaurni-mats* "midday meal", OIc *undorn* "midforenoon" etc. || ChSl *jetro* "entrails".

*ens-ter* > ? Hitt *istarna*, *istarni* "between, mutually, in the midst, among(st), within, internally" < *\*ens-ter-n<sup>o</sup>* with the same suffix as Lat *internus* (Puhvel 1984, 478-83) || MLG *inser* "essbare innere Teile von Tieren", OIc *ístr* "das Eingeweide umgebende Fett" || OP *intran* "Fett", Latv *ístr* pl. "Nieren" < *\*enstro-*.

|| Semitic *\*ʔina* "in" > Akkadian *in(a)* "in, on, by; from" (GAG §114c; CDA 129), Eblaic *in* "in, on", probably also NI-*na* „vers, pour, en“, which can reflect *i-na* (Limet 1984, 60-65), Hebrew *ʔetmōl*, Aramaic *ʔiṯmāl* "yesterday" < *\*ʔittəmōl* < *\*ʔina timāli(m)*, lit. "in [the day of] yesterday", cf. Akkadian *ina timāli(m)*, Syriac *emmaṭ* = Akkadian *ina mātī* „when“, Geez *ən-* in *ənbala* "without, except for" = Akkadian *ina bāla* "without" (Brockelmann 1908, 496; Leslau 1987, 27) || Berber *\*Hīn* > Nefusi *in*, *én*, *n(é)*



„a“, e.g. *ugûrag in tarâbles* "sono andato a Tripoli" (Beguinet 1942, 213), Siwa *in*, *i* "à, vers (marquant la direction)" (Laoust 1932, 189; Prasse 1972, 224-25). Prasse (1972, 170, 225) adds the prefix *in-* (\**Hin-*) of the suffixal series of the Berber personal pronouns, e.g. Tuareg (*h*)*in/nnu*, Ghadames *inu* < \**Hin-ū*, analyzable as "à moi" || Egyptian (old) *in* "durch, seitens" (Wb. I, 89) || Cushitic: (East) Rendille *in-* "place", *inta* "(at) this place" (Pillinger & Galboran 1999, 155, 157); Gedeo *-n'i* "in, on", Kambatta *-n*, Hadiyya *-n(ni)* (Hudson 1989, 83), Yaaku *-n-* "(together) with" || Chadic: (West) Sura *n* "in, an, zu, für"; Fyer *'n ~ n* "nach" (Jungraythmayr); Mupun *n-* 'preposition marker of the dative and benefactive arguments' (Frayzinger).

Lit.: Hommel 1894, 353: Akkadian + Egyptian; Rössler 1952, 143: Akkadian + Nefusi; Prasse 1972, 225: Egyptian + Berber; Takács 1999, 126: Semitic + Berber + Chadic + Egyptian *n* 'preposition of the dative' (Wb. II, 193-94). Dolgopolsky, p.c.: IE + Semitic + Berber + Rendille.

NB1: Voigt (1999, 42) judges that the Akkadian *in(a)* is derived from \**ima* which would be changed under the influence of *an(a)*; the hypothetical form with \**-m-* is compared with Egyptian *m*, with suff. *īm* „in“, cf. also *īm* „da, dort“, *īmj* „befindlich in“ (Wb. II, 1), Coptic (SB) *mmo-*, *m-*, *n-* (Vycichl 1983, 134). But it was already Behnk (1927, 81) followed by Ember (1930, 61) who compared this Egyptian preposition with Akkadian *ēm(a)* prep. „in whatever/every part of“, conj. „wherever“ < Semitic \**ʔay-ma* (AHw 210; GAG §114i; CDA 71). On the other hand, Voigt does not take in account the Eblaic cognate *in* and the fact that there are no traces of *ana* in Eblaic.

1.1) IE \**H<sub>1</sub>en-do* "into, inside" ~ AA \**ʔin-ta* "together with, at this place, into"

IE \**H<sub>1</sub>én-do* > \**éndo* "into" > Hitt *anda(n)* "in", Luw *ānta*, HierLuw *ā-ta*, Lyc *ñte*, Lyd *ēt-* "into" (Melchert 1994, 242, 284, 348) || Gr *ἐνδον* "within" || Alb *ndë* "in" || Lat *endo* "in" (EIEC 290) || Gaul (Larzac) \**ando* in acc. sg. *an-ando-gnam* consisting of *an-* "non" & \**ando-gn<sup>o</sup>* "né à intérieur" < \*(*H*)*pdo-gnH<sup>o</sup>*, cf. Lat *indigena* (Lambert 1994, 171).

|| Semitic \**ʔin-ta/i/u* > Akkadian *itti*, *ittu(m)*, *itta-* "with" (CDA 137), Phoenician *ʔt*, Hebrew *ʔet*, with suff. *ʔittō* "together with, by the side of", Geez *ʔənta* "through, by way of, at, into, to, in the direction", Tigre *ʔət* "on, in, by, with, because of" (Brockelmann 1908, 498; Leslau 1987, 32-33) || Cushitic: (East) Rendille *inta* "(at) this place" (Pillinger & Galboran 1999, 157) | Dahalo *ʔintō* "with; from" (Tosco 1989, 128).

NB1: The final component of the extended form \**H<sub>1</sub>en-do* is probably identical with IE \**dē*, \**dō* "dar" (B 811-14; P 181-83) = \**do* ~ \**de* "to" (EIEC 590) > ?Gr *δῆ* "eben, nun, gerade, gewiss", ἤ-δῆ "schon", δέ "aber", already Myc *-de* enclitic conjunctive particle with adversative function (Aura Jorro 1985, 162) || Messap *de* adversative particle (Haas 1962, 183, 212) || Lat *dē* "von - weg, von - herab, in betreff", Faliscan *de* id., cf. Osc *dat* "dē" < \**dād* (after *ehtrād*), cf. further Lat *dēnum*, OLat also *dēmus* "eben, nun, erst" < \**zu* unterst" - "zuletzt, endlich", *dēterior* comp. "minder gut, schlechter", *dēterimus* super. || OIr *dí*, OWelsh *di*, Corn *the*, Bret *di* "von - herab, von - weg"; Gaulish *di-*; Celtib *Ti-* "from; not" < Celt \**dī* < \**dē* in *TinPiTus* "let him effect, cause" < \**dī-en-bwī-tō(d)* + *-s* (Eska 1989, 107-08) || ? OHG *zādal* "Armut, Not" < \**dē-tlom*, from \**dē* "von - weg", similarly *wādal* "arm" : Lat *vē* ?

Lat *dō-* in *dō-ni-cum*, *dōnec* "so lange als, bis dass, bis endlich; dann" || OIr *do*, *du*, OWelsh *di*, Corn *de* "zu" < Celt *\*dū* < *\*dō*; cf. also Gaul (Graufesenque) *du-ci* "associé à" ? (Lambert 131) || OEng *tō*, OSax *tō*, OHG *zuo* "zu"; ? Goth *du* "zu" (prep. with dat. and peverb, e.g. in *du-ginnan* "beginnen") || Lith *do* "zu" (prep. & pref.), ELatv *da* "bis" || OChSl *do* "bis, zu" (Kopečný 1973, 59-66), besides *da* "so, und, aber".

2) *\*H<sub>1</sub>ep-i* "by, near, after" ~ AA *\*ʔap-(V?)* "also; outside?"

IE *\*epi*, *\*opi*, *\*pi* "nahe hinzu, auf - darauf, auf - hin" (B 838-44; P 323-24) = *\*Hépi*, *\*H<sub>1</sub>opi* "by, at, towards" (Be 221) = *\*H<sub>1</sub>epi* ~ *\*H<sub>1</sub>opi* "near, on" (EIEC 391) >

OInd *āpi* "auch, ferner, sogar, dazu" (adv.), Ved rarely prep. with loc. "bei, in", pref. *api-*, *pi-* "zu, bei", e.g. *pi-nahyati* "bindet an, zu", *py-úksṇa-* "Überzug des Bogenstabes" = Gr πρυχή "Falte, Schicht"; Gatha Av *aipī* "auch, späterhin", later Av *aipi* "über - hin, bei" (adnominal with acc.), temporal "bei" (with loc.), "nach" (with instr.), adv. "dazu auch, desgleichen auch, besonders; hernach, später", pref. "hin", OPers *apiy* "auch, noch", cf. also adv. *apaya-* "hernach, künftig" || Hitt *appizziya-* "afterwards" < *\*opi-ti-o-* = Gr ὀπίσ(σ)ω id. (Puhvel 1984, 94, 97) || Arm *ew* "und, auch", cf. the verbal prefix *h-*: *h-aganim* "ziehe mir an" || Gr ἐπί, ἐπι "auf zu, an" (with gen., dat. & acc.), from Il., but attested already in Myc *e-pi* "upon" (Aura Jorro 1985, 223f), versus Myc *o-pi* (Aura Jorro 1993, 37) and further Hom. ὀπίθε(v) "hinten, hinterher", Ion-Att ὀπισθε(v) id., ὀπίσ(σ)ω "backwards, afterwards", besides ὀνέ, Aeolic ὄνι "spät" || Alb *jap* "give" < *\*jep* < *\*epī* < *\*epi-di-ō* < *\*epi-d(o)H-i-ō* = Gr ἐπι-δίδωμι "give freely, lavishly" (Hamp 1981, 40) || ? Illyr *epi-* in NV *Epi-cadus* (-*cadus* ~ κεκοαδμένοσ "prangend"), *Epi-caris*, NL *Epi-dotio*, *Epi-lentio*, *Epi-damnos* etc. (Krahe 1955, 54) || Messap *eipei-* in *eipeigrave[ρ]s* (Haas 1962, 49, 167, 213) || Venet prep. with instr. *o.p* and further *opi-* in NL *Opi-tergium* (Lejeune 1974, 337) || OLat *ob* "circum, juxta", later "gegen - hin, nach - hin, um - willen, wegen" (adnom. with acc.), *op-* in *operio* < *\*op-veriō*, *oportet* < *\*op-vortet* "es wendet sich einem zu, kommt einem zu, steht als Pflicht vor einem"; Osc *úp*, *op* "bei" (with abl. = \*instr.) || OIr *tá-daim* "I close" < *\*epi-d<sup>h</sup>H<sub>1</sub>o* = OInd (*a*)*pi-dhā-* = Gr ἐπι-τίθημι = Lat *obdō*; Welsh *wyneb* "face" < *\*ep-enik<sup>h</sup>ā* (Hamp 1981, 43, 39); ? Celtib *oi-* "near (to)" < Celt *\*oy-* < *\*opi* in *oísāTus* 3 sg. fut. "?" (Eska 1989, 79); OIr *oíbell* f. "spark, flame, ember" = Welsh *ufel* "Funke" < *\*opi-b<sup>h</sup>elā*; OIr *ad'opair* "sacrifices" < *\*ad-obber-* < *\*ad-op-ber-* = Lat *offerō* (Hamp 1981, 41) || Goth *ibdalja* "descent", *ibuks* "back", OHG *ippihhon* "to turn back", besides OIc *ofugr* "backward", OSax *abuh*, OHG *abuh* "turned away" (Lehmann 1986, 202) || Lith *apiẽ*, *apę* "around" (with acc.), Latv *ap*, *ap(i)-* id., Lith *āpstas* "overflow" < *\*op(i)-stH-*; OPr *ep-*, *eb-* "be-" || Toch AB verbal pref. *p-*, A *opāśśi*, B *epastye* "skillful, adept, capable, able" < *\*H<sub>1</sub>opi-stH<sub>2</sub>-u-*, cf. Gr ἐπίστωσις "diligence, attention, care" (Adams 1999, 88), Toch B *pi* "really, indeed", perhaps related to A *-pi* occurring as a part of the decade numbers (Adams 1999, 382-83).

*\*ep(i)t[ɪ]mo-* > Goth *iftuma* in *iftumin daga* "on the following day" (Lehmann 1987, 204), besides *\*op(i)t[ɪ]mo-* > Lat *optimus* "best" (Hamp 1981, 42).

*\*epiro-* > Alb *épër* "upper, superior, higher" = Gheg *éper* < *\*opi-ro-* || OIr *iar<sup>N</sup>*, *iarm-* "after, secundum" (with dat.) < *\*ēron*, *\*ēromV* < *\*epi-ro-m* (P 324 after Thurneysen: primary ntr.), *\*epi-ro-mV*; Welsh *ryr* "grandson" < *\*ēros* < *\*epi-ro-*; the

semantic development has an analogy e.g. in Gr ἔπισσον· τὸ ὕστερον γινόμενον (Hesych.), ἔπισσαι f. pl. "nachgeborene Töchter" (Hamp 1981, 43).

|| Semitic: Hebrew *ʔap* "also, and also, and even", Syriac *ʔāp* "also", Ugaritic *ʔp* id. (Bomhard 1984, 252: IE + Semitic), cf. also Geez *ʔafʔā* "out, outside, outside part, beyond" || Cushitic: (Central) Awngi *af* "outside, outdoors" (Leslau 1987, 9). Cf. also Semitic \**pāl* "in" > Thamudic & Lihyanitic *f* "in" (Pennacchiotti 1974, 183, 43), Arabic *fī* "in, among, with regard to, upon, on account of, in the midst of", usually interpreted as the oblique case of *fū* "mouth" (Steingass 1988, 810; Voigt 1999, 40, fn. 30).

3) IE \**H<sub>2</sub>ed* "to, by" ~ Semitic \**faday-* "up to, until"

\**ad* "zu, an bei" (B 793-94; P 3) = "to, at, by, from" (M 2) = \**H<sub>2</sub>ed* "to, by" (Be 220) = \**H<sub>2</sub>ed* "to" (EIEC 590) > Phryg ἄδ-δακετ "he (shall ?) do" (Neroznak 1978, 114f) || Maced ἄδ-δαν· ῥυμοί (Hesych.) = nom. sg. \*ἄδδα < \**ad-d<sup>h</sup>ē-ā* (Ködderitzsch 1985, 27-28) || 'Prehellenic' \**ad-* in ἀλείφω "salben" < \**ad-leip-*, ἀγείρω "sammeln" < \**ad-ġ<sup>h</sup>er(-s)-iē/o-* (Hamp, *Živa antika* 39[1989], 54, 75-76) || ? Illyr *ad-* in NV *Adgeleius* (Krahe 1955, 50) || Lat *ad* "zu, bei, an" (prep. with acc., also with gen.; preverb), *atque* "und dazu, und auch, und" < \**ad-que*; Osc *adpūd* "quoad", *az* "ad" (with acc.) < \**ads*, Umb *ař-* 'preverb', *-ař* postposition with acc., e.g. *asam-ař* = Lat *ad aram* || Gaul *ad-* in *Ad-iantū* = Welsh *addiant* "Sehnsucht", *Ad-mārus* (cf. OIr *már* "big"); Welsh *ā*, prevocalic *ag* "with" < \**ad-ġ<sup>h</sup>e*; OIr *ad-* 'preverb', e.g. *ad-glādur* "appelō"; Celtib \**ad-* in *ašeCaTi* "let him affirm" < Celt \**ad-seg-ā(se)-ti* (Eska 1989, 37, 50); Vendryes (1959, A-13) adds Welsh *eddyll* "duty, goal" < \**adilo-*, comparing it with Goth *til* "suitable", MLG *til* "goal", OIc, OEng *til* "up to, till" (cf. Lehmann 1986, 344-45) || Goth *at* "at, to, from", OIc *at* "zu, bei, gegen, nach", OEng *æt*, OSax *at*, OHG *az* "zu, bei, an"; cf. also Goth *at-augjan* "to show" vs. OSax *t-ōgian*, OHG *z-ougen*, or OHG *z-agēn* "to hesitate" vs. Goth *ogjan* "to frighten" and OIr *ad-āgor* "I fear" (Lehmann 1986, 45).

NB1: Hamp (IF 90[1985], 70) proposes a primary noun \**H<sub>2</sub>ed-* "conformity, goal", seeing in the preposition the frozen endingless locative.

|| Semitic \**faday-* > Old Akkadian *adum*, Akkadian *adi/u* "up to, until", Eblaic *a-dē* id. (Limet 1984, 65), Ugaritic *ʔd* "untill" (Segert 1984, 195), Phoenician *ʔd*, Hebrew *ʔāqē*, *ʔad* "up to", Aramaic *ʔad*, Syriac *ʔadammā*, Sabaic *ʔd(y/w)* "to, up to, into; untill, in, at" (SD 12), Qatabanian *ʔd* „up to, as far as; in“ (Ricks 1989, 114), Jibbali *ʔed* "till, untill", Šxeri *ʔad* "bis" (Bittner; see Müller 1985, 273; Brockelmann 1908, 499).

NB2: Voigt (1999, 38) tries to derive this preposition from the root √*f-d-y/w* attested in Arabic *ʔadā* "to run, escape", *ʔadwat* "crossing, passing over, transition" (Steingass 1988, 678), cf. also Berber: Ahaggar *adu* (Foucauld), Ayr & Awlemidden *adwu* "aller, arriver dans l'après-midi à" (Alojaly), etc. Voigt (l.c.) is right that the initial syllable \**fa-* implies *e-* in Akkadian. For the really attested *a-* he separates the Akkadian counterparts from this etymon and connects them with Geez *wəʔda*, *waʔ(ə)da* "where, in the place, along", Amhara *wādā* "toward" (Leslau 1987, 602), cf. also Harsusi *wəḏḏ-* "to, towards", Mehri *wəḏ-*, besides Soqotri *ʔəd*, (*ʔi*)*d* "in, to", Central Jibbali (*ʔe*)*d* "to, up to", *ʔed* "till" (Johnstone 1987, 421; Simeone-Senelle 1998, 410), Hadramautic *ʔd* "bis, nach" (Müller 1985, 273), indicating \*(*wa-*)*ʔid-a*, maybe related to Geez *ʔəd*, Jibbali *éd*, Soqotri *əʔəd* „hand“, Akkadian *idu(m)* (cf. Leslau l.c.).

NB3: Dolgopolsky, p.c.: IE + AA; AA *\*d* regularly corresponds to IE *\*d<sup>h</sup>*, Dolgopolsky explains this difference via neutralization in the final position

4) IE *\*H<sub>2</sub>en-* "face" ~ AA *\*ʕan-* "side, cheek" or *\*han-a* "head" → "over, on, above"

IE a) *\*an(ō)* "an einer schrägen Fläche hin, hinan" (B 798-802; P 39-40) = "on, upon" (M 21, 27) = *\*H<sub>2</sub>en* "along in an upwards direction" (Be 220) = *\*H<sub>2</sub>en-H<sub>2</sub>e* "up (onto), upwards, along" & *\*H<sub>2</sub>en-u* id. (EIEC 612) > OInd *ánu* "nach" (with acc., abl., gen.), nach-hin, entlang, hinter-her, gemäss, in betreff, gegen" (with acc.), adv. "darauf" (with final -u perhaps comparable with Lesb & Thes *ἀπό* vs. Attic *ἀπό*) = Av *anu* "nach, gemäss", OPers *anuv* "nach, gemäss; auf-hin"; Av *ana* "entlang, längs, über - hin", OPers *anā* "über-hin" (with acc. or instr.), "entlang, auf" (with acc.) (EWAI I, 73-74) || Arm *am-* in (*h*)*am-baṣnam* "ich erhebe", *ham-berem* "ich ertrage" with *h-* after Pers *ham* "together" || OPryg *an-* in *anegertoy* "has built" = Gr *ἀνεγείρω* "build" (rock monument near Midas town; Woudhuizen 1993, 7, 22) || Ion-Att *ἄνα, ἄνα* "auf, in die Höhe, entlang", Dor, Boeot, Arc, Cypr *án*, Lesb, Thes Nv id.; adv. Avō "aufwärts, empor, hinauf, nach (oben)", maybe already Myc *a-no-* in *a-no-qa-si-ja*, if it represents *\*áno-γ<sup>h</sup>ασiā* (Aura Jorro 1985, 69) || Lat *an-hēlō* "atme stark und mühsam" < *\*an-anslō*; Umb *an-tentu* "intendito", *an-seriato* "observatum", *anglar* "oscines" < *\*an-klā-* || OIr *an-dess* "de droite" → "Sud", *an-iar* "de derrière" → "Ouest" etc. (Vendryes 1959, A-70) || Goth *ana* "at, on" (with dat. & acc.), ORun *ana* "on" (Antonsen 1975, 33, 43-44), OIc *ā* adv. & prep. with dat. & acc. "on, in", OEng *on*, OSax *an(a)*, OHG *an(a)* "an, auf, in, bis, gegen" (with dat., acc. & instr.) || Lith *anót(e)* "entsprechend, gemäss" (with gen.), *nuō* "von-herab, von-weg" (with gen.), Latv *nūo* "von" (with gen.), OPr *no, na* "auf (wohin), gegen, über - hin", as prefix "nach; von - weg" || OChSl *na* "auf - hin; auf, an" (with acc. & loc.) = Lith *nuō* < *\*(H)nō* (see Kopečný 1973, 115-23) || Toch A *eṣäk* "on top of", B *omṣmeṭṭ* "(from) above" < pToch *\*on(ä)ṣä-* < *\*H<sub>2</sub>e/onu-d<sup>h</sup>i*, cf. Gr *ἀνωθε(ν)* "from above" (Adams 1999, 108).

b) *\*anti, \*anta* "sich gegenüber, angesichts", über hin, entlang" (B 802-05; P 48-50) = towards, against, facing" (M 27-28) = *\*H<sub>2</sub>enti* "over against" (Be 220) > OInd *anti* adv. "sich gegenüber, vor sich, in der Nähe" || Hitt *hanti* "vorne, besonders" || Arm *and* "dort", *ənd* "für, anstatt" (with gen.), "längs, über (an, auf) etwas hin" (with acc.), "zur Seite" (with abl.), "mit, bei" (with loc.), "auf-" (as preverb), cf. also *andranik* "Erstgeborener, erster" || Gr *ἀντί* "angesichts, gegenüber, vor; für, anstatt" (with gen.), also as preverb, already Myc *a-ti-ja* nom. pl. ntr.f. = *ἀντία* (Aura Jorro 1985, 118) || Lat *ante* "gegenüber, vor" (with acc.), also preverb < *\*anti*, cf. *antistō*, *antiquus* "alt" < *\*anti-ok<sup>h</sup>* || Goth *and* "along, through, over" (with acc.), also preverb "towards, opposite, away from", e.g. in *andniman* "entgegennehmen", *andanems* "annehmlich, angenehm", *andbinden* "losbinden, entbinden"; OEng *and* "against", OFris *and* "to, in, on", only in compounds OIc *and-*, OEng *and-*, *ond-*, OSax *and-*, *ant-*, OHG *ant-*, *int-*, *ent-* "opposite, against, to", with verbs also "from" || Lith *antā, aūt*, older *anta* "on, to" (with gen.).

The zero grade continues in Osc *ant* "bis zu" (with acc.) || Goth *und* "für, um" (with dat.), *unþa-pliuhan* "entfliehen" etc.; *und* "bis" (with acc.), ORun *up lunþl*

(Antonsen 1975, 77), OIc *unz* (*und es*) "bis dass", OHG *unt* in *unt-az* "bis" etc. || Lith *iĩt* "nach".

Apparently derived from the noun attested in OInd *ánta-* "Ende, Grenze, Rand", *ántya-* adj. "am Ende befindlich" || Hitt *hanz(a)* "in front", dat.-loc. *hantī* "apart", Palaic *hantanā-* "meet", Luw *hantawat(i)-* "ruler", *hantili-* "first", HierLuw *ha-ṛ(V)* "face", Lyc *xñtawā-* "ruler" (Melchert 1994, 117, 191, 242) || Arm *h-andiman* "facing, opposite" < \**en-anti-mn-* (M 27) || Celtib *antoś* "Grenze(n)" = "fīnēs" = Gaul of Vercelli *atoś* (Meid 1996b, 48, 50); OIr *étan* "front, forehead" < \**antono-*, Breton *ant* "ridge" (M 28); cf. further Gr ὀντίος "opposite", ἄντα "face to face", ἔναντα "opposite, over against" < \*(*en*)-*antm*, κἀναντες gen. sg. "die Vorderseite herab", ἄντα, ἄντην adv. "gegenüber, ins Gesicht" || ? Messap *anda* "vor" (Haas 1962, 83-84, 209), contaminated with the unattested reflex of \**endo* ? || Goth *andeis*, ORun *aada-* *landa-/* (Antonsen 1975, 75), OHG *anti*, *enti* "Ende" || Lith *añtis* "breast(s)" || Toch A *antus* "also", *antule* "ausserhalb, bis..vor", A *ānt*, B *ānte* "surface, forehead" < \**H₂ento-* (Adams 1999, 43). c) \**amb<sup>h</sup>i*, \**ṃb<sup>h</sup>i* "auf beiden Seiten, um" (B 795-98; P 34) = "on both sides; around, at" (M 18) = \**H₂ṃb<sup>h</sup>i* "around" (Be 221) = \**H₂ent-b<sup>h</sup>-i* "around, on both sides" (EIEC 32) > OInd *abhīta-* "umher, ringsum, von allen Seiten" = Av *aīβitō* & *aiuiitō* "ringsherum"; OInd *abhī-vīra-* "von Männern umgeben" (EWAI I, 91) || Arm *ambofj* "vollständig, unversehrt" (*ofj* "gesund") || Myc *a-pi* (Aura Jorro 1985, 79f), Gr ἄμφι "um", ἄμφις "zu beiden Seiten" || Alb *mbi*, *mbë* "bei, auf, an" || Lat *ambi-* (prevocalic), *am-* / *an-* (preconsonantal) "herum, um, ringsum", OLat *am* "circuitus, causā"; Umb *amb-* (*amboltu*), *a-* (*a-ferum* "circumferre"), *an-* (*an-ferener* "circumferendi"), Osc *ampt* "circum", *amviannud* "circuitus", *amfret* "ambiunt" || Gaul *ambi-* "um" (Ἀμβί-δρανοί); Welsh, Corn, Bret *am-*, *em-*; OIr *imb-*, *imm-* "um"; Celtib *amPi-* "around, about" in *amPiTišeTi* "let him rebuild" < Celt \**ṃbi-deig-se-t(i)* and the derived verbal noun in dat. sg. [*a*]*mPiTinCounai* (Eska 1989, 41-44) || OIc *umb*, OEng *ymb(e)*, OSax, OHG *umbi* "um" || Toch A *āmpi* m. < ntr. du. \*<sup>0</sup>*oiH₁*, āmpuk f. "both" < m. du. \*<sup>0</sup>*ōu* + *-k(ā)*, besides B *antapi* ~ *āntpi* id. < ntr. du. \**H₂ent-b<sup>h</sup>oiH₁* (Adams 1999, 14). Cf. Jasanof, BSL 71[1976], 123-31 and Hilmarsson 1989, 56-58. It seems promising to start from \**H₂en-* ± "face, side", probably forming the following two forms too.

|| Semitic: Arabic *fan* prep. "from, away from, instead of, for; with regard to; in accordance with; on account of, after; upon; in; about", cf. *fanān* "side" (Steingass 1988, 729), Sabaic *fn* "away from", Šxeri *fan* id., Soqotri *fan* "de, pour" (Leslau 1938, 315) || East Cushitic: Somali *fan* "cheek, chin" || ? Egyptian *fnfn* 1. "Kinn"; 2. "Hals" (Wb. I, 191). If we separate the form \**Hₐen-Hₐ* "on" from \**H₂en-tHₐ* /-*ti* "facing", there are alternative comparanda: Semitic \*[*h*]*ana* > Akkadian *an(a)* "to, for" (CDA 16) || Egyptian *hn* 1. "Kopf"; 2 "bis hin nach.." (Wb. II, 492, 495) || Cushitic: (East) Harso-Dobase *ana* "auf" (Amborn - Minker - Sasse); Sidamo *aana* "over, on", Hadiyya, Gedeo *hana* id. (Hudson) | (South) Ma'a *aná* "above" (Dolgopolsky, p.c.: IE + AA).

5) IE \**Hₐet-i* "towards, against; back" ~ AA \**ḥat-* > Semitic \**ḥattay* "until, as far as", \**raḥtay-* "under" || East Cushitic: Dullay \**ḥayto* "excepting" < \**ḥat-ay*?

IE \**ati*, \**ato-* "über etwas hinaus" (P 70) = \**at(i)*, \**ati-* "towards, against; back, again" (M 38-39)

? OInd *áti* "über - hinaus" (adnom. with acc.), "überraum, sehr" (adv., preverb) = Av *aiti*- e.g. in *aiti-bar*- "hinübertragen", OPers *atiy*- in *atiy-āiš* "er zog, begab sich", Khot *ata*, *atā* "excessively" (if the Indo-Iranian forms do not reflect *\*eti*, so EWAI I, 57); OInd *átas* "von hier, von dorthier, vo, als" (Mayrhofer in EWAI I, 56 sees here the ablative formation from *a-*) || Hitt *addu* "further" < *\*atu* (Puhvel 1984, 228-29) || ? Gr *ἄτ-ἄρ* "however" || Lat *at* id.; Venet preverb *ati-* in *atisteit* "adstat" (Lejeune 1974, 331) || Gaul *ate-* in *atenoux* (Calendar of Coligny; Lambert 1994, 112), cf. NV *Ate-gnātus* = MBret (*h*)*aznat*, MWelsh *at*-, OIr *aith*-, pretonic *ad*-, cf. Ir *aith-gén* = Welsh *ad-waen* "je reconnais" (Vendryes 1959, A-53) || Goth *ap-pan* "aber, doch" || Lith *at(a)-*, later also *ati-* "zurück-, ab-, her-" || OChSl, R *ot*, later *otъ* "weg, ab, aus" (adnom. with gen.-abl.) < *\*atos* (Couvreur, IF 60 [1960], 33), besides R-ChSl *otъ* derivable from *\*ati* (Fortunatov; see Kopečný 1973, 151, 156) || Toch A *atas*, B *ate* "away" < pToch *\*āté(-s)* (Adams 1999, 10).

|| Semitic: Arabic *ḥatta*, *ḥattay*- "until, as far as" || Cushitic: (East) Dullay (Dobase, Gollango) *ḥayto* "ausen" (AMS). The same root probably forms the Semitic preposition *\*taḥtay*- "under" > Amorite (in Akkadian transcription) *taḥtun* (Dolgopolsky 1999, 93), Ugaritic *tḥt* "under" (Segert 1984, 203), Hebrew *taḥat*, with suff. *taḥtē*, Biblical Aramaic *təḥōt*, Syriac *təḥūt*, Mandaic *tīt*, Arabic *taḥta* "under, below", cf. *taḥt* "the lower part", Sabaic & Qatabanian *tḥt* (Ricks 1989, 177), Geez *tāḥta*, with suff. *tāḥte* "under, below, from under", Amhara *tačč* "down there, below", Harari *taḥay*, Gurage *tar* (Brockelmann 1908, 499; Leslau 1987, 572-73).

6) IE *\*b<sup>h</sup>e-* "without" ~ AA *\*bay-* "not be present"

IE *\*b<sup>h</sup>e-* "without" > *\*b<sup>(h)</sup>e-(ĝ<sup>h</sup>-)* "ausser(halb), ohne" (B 810-11; P 112-13) = *\*b<sup>h</sup>eĝ<sup>h</sup>-* (EWAI I, 220) > OInd *bahṭs-* "draussen, von aussen, ausserhalb von" (with abl.); MPers *bē* "fort, aus" (EWAI I, 220) || OPr *bhe* "ohne" (with acc.), Lith *bē* "ohne" (prep. with gen., nominal prefix), Latv *bez* id., although the borrowing from Sl cannot be excluded || OChSl *bez* & *be* id. (Kopečný 1973, 41-46). Cf. Lith *be* "noch" = *\*"ausserdem"*, *bēt* "sondern, aber", *bēs*, Latv dial. (Inflantian) *be/bā* "without", besides Latv *bēst* "vielleicht, etwa" < *\*b<sup>h</sup>e + est* || OIr *bés* "vielleicht" < *\*béis* < *\*b<sup>h</sup>e + esti* ? Starting from the primary BSl form *\*be*, it is tempting to mention the equation Bulg *bezok* "blind" = Lat *ab oculis* > French *aveugle* (Fraenkel, KZ 69[1951], 78f).

|| Semitic *\*bay-* > Phoenician *by* "sans" (Cohen 1970f, 61), Soqotri *be* id. (Leslau 1938, 80) || Egyptian *by* "nein", *bw* "nicht" (Wb. I, 432, 453) || Berber: Tuareg of Ahaggar *iba* "ne pas y avoir de" (Prasse 1972, 235) || Cushitic: (North) Beja *baa-* m., *bii-* f. "nicht" | (Central) Bilin, Khamir *bi* "ausser Stande sein, nicht können; nicht finden, nicht haben; abgehen, ermangeln" (Reinisch) | (East) Burji *abóonn(i)* "no", Hadiyya *be?e* "not be present" (Sasse) | Dahalo *ḍa-* 'negative selector' (Tosco) | (South) Burunge past : nonpast *abāh* : *ibāh*, Alagwa *ibāhi* 'negative auxiliary' (Hetzron 1980, 98) || Chadic: (West) Hausa *ba* "not", Ngizim *bai* id. | (East) Jegu *bāa-* "nein, nicht" (Skinner 1996, 12).

7) IE *\*b<sup>h</sup>i*, *\*ob<sup>h</sup>i* < *\*op-b<sup>h</sup>i*? "at, towards" ~ AA *\*bi* "by, at"

IE *\*ob<sup>h</sup>i*, *\*b<sup>h</sup>i* "auf - zu, auf (über) - hin" (B 820-23; P 287) = *\*ob<sup>h</sup>i* "athwart, against, at" (M 861) = *\*H<sub>3</sub>eb<sup>h</sup>i*, *\*(H<sub>3</sub>)b<sup>h</sup>i* "towards" (Be 221) > OInd *abhi* "herbei, zu -



her, gegen, wegen, über" (with acc.), *abhi-* "auf - zu"; Gatha Av *aibī*, late Av *aīḫi*, *awi*, *aoi*, OPers *abiy* prep. "zu - hin" (with acc.), "über, in betreff von" (with loc.), pref. "zu, be-", Buddh. Sogd *βy*<sup>o</sup>, Khot *by*<sup>o</sup> etc. (Bailey 1979, 308) || ? Lat *ob* "auf - hin, nach - hin, auf - zu, vor - hin; zum Entgelt für; um - willen, wegen", cf. *obsideō* = OInd *abhi-sad-* (WH II, 192-93) || Goth *bi* "auf - hin", OHG *bi*, *bī* "in Beziehung auf, über, (with acc.), "an, bei" (with dat. = \*loc.) || OChSl *obъ*, *obъ* as preverb "um-, be-", e.g. *obъ-* / *obъ-stojati* "umringen" (Kopečný 1973, 132-41).

|| Semitic \**bi* ~ \**ba* "in" > ?Akkadian *ba-* in *bašû(m)* "to be, exist" (CDA 40) = Geez *bo* "in ihm ist" → "es gibt", maybe also *birītu(m)* "space between" (CDA 45), if it is derivable from \**b-* & *ir(a)uu(m)* "breast, chest" (CDA 131), Ugaritic *b-*, *b*, *by*, syllabically *bi-i* "in, with, for, from" (Segert 1984, 180-81), Hebrew & Aramaic *bə* "in, on, with", Epigraphic Aramaic *b-*, Arabic *bi* "with, by, at, in, to, towards" (Steingass 1988, 101), Epigraphic South Arabian *b-* "in, at, with, by" (SD 25), Qatabanian *b* "in, on, by means of, through" (Ricks 1989, 19), Mehri *bə-* "about, at, by, in, with", Central Jibbali *b-*, Soqotri *b-* (Johnstone 1987, 40), Geez *ba* "in, at, into, on, by, through, with (by means of), after, by reason of, because of, out of, on account of, according to, concerning, against", Tigriña *bē*, Tigre *ḥəb*, Tigriña *ḥab*, *bə-* in *bəḥə* "I have", lit. "in me" (Brockelmann 1908, 495; Cohen 1970f, 39; Leslau 1987, 84) || Cushitic: (North) Beja inessive *-b* "bei" (Reinisch 1893, 74, §133a & Hetzron 1980, 79: Semitic + Beja.).

NB1: Brockelmann (1908, 495) quotes the idea of Haupt who connected this preposition with \**bayt-* „house“, deriving both from  $\sqrt{b-w-?}$  „to come, enter“ (cf. Segert 1984, 181).

NB2: Following Brugsch, Erman (1892, 110) compared the Semitic preposition with Egyptian *bw* „Ort, Stelle“ (Wb. I, 450); cf. also the sign *b* depicting "foot" (Wb. I, 410; Lacau 1970, 18-27).

8) IE \**kʷu-* "to" ~ AA \**ka*/\**kay*/\**kī*/\**ku* "as, like, according to"

IE \**kʷu-* "to" > Sogd *kw* "to" || OIr *co* "zu, bis" (prep. with acc.), MWelsh *py* "jusqu'à", Welsh *bw-y gilydd* "(von einem) zum andern" (Vendryes 1987, C-133) || ? OChSl *kъ* "toward" (Kopečný 1973, 99-106; he confirms that the sometimes proposed protoform \**kъn-* is a fiction; its existence in a fossilized form \**kъnorъ* indicates another origin).

NB1: The most probable source seems to be an interrogative root of the type Av *kū* "where", Sogd *kw* id. Sims-Williams (*Peredneaziatskij sbornik* 4[1986], 116f) offers a convincing explanation of the transformation of the functions "where" → "to", using e.g. the following clause: Khot *thatau hā jsāte ku balysa* "quickly he goes where the Buddha [is]" → "quickly he goes to the Buddha..".

|| a) Semitic \**ka* "as, like" > Eblaic *ka* id. (Gelb 1987, 61), Ugaritic *k-* "as, like, according to" (Segert 1984, 189), Hebrew *kā-*, *kā*, Old Aramaic *k-*, Arabic *ka-* "as, like", Sabaic *k-* "as, (so) that, in order that, when, for, because" (Biella 1982, 237; SD 75), Qatabanian *k-* "like, as" (Ricks 1989, 83), Mehri, Hobyot, Bathari, Harsusi, Jibbali *h-* "to, for" (Simeone-Senelle 1998, 410).

b) Semitic \**kay-* "as, like" > Akkadian *kī* "like, according to, for; how?; if" (CDA 155), Ugaritic *k(y)* "when, if" (Segert 1984, 189), Phoenician *chy*, Hebrew *kā*

"surely, yea, then", Old Aramaic *ky*, Arabic *li-kay* "in order that, so that" (Steingass 1988, 927), Soqotri *ke* "if, when" (Johnstone 1987, 200), Geez *-ke* "now, then, so then, thus, therefore, of course, indeed, even, as for", Tigriña *-kă, kă?ă* "then" (Leslau 1987, 271).

c) Semitic *\*ka-mā* "as, like" > Akkadian *kīma* "like, when, as, that" (CDA 157-58), Ugaritic, Phoenician *km* "as, like", Hebrew *kāmō*, Aramaic *kāmā*, Arabic *kamā* id., Qatabanian *kwm* "thus", Geez *kama* "as, just as, even as, like, as if, such", Tigre *kām*, Tigriña *kām* "like, as, according to" (Leslau 1987, 284-85).

d) Modern South Arabian *k-* "with; at, in (of time)" (Johnstone 1987, 200); cf. Qatabanian *k-wh d* adv. "together, as a unit" (Ricks 1989, 83).

There are convincing AA cognates:

Cushitic: (North) Beja *-ka* "von, aus" (Reinisch) | (East) Afar *-k* "from, of, than" (Parker & Hayward 1985, 289), Saho *-kuu* "von, aus" (Reinisch), Somali *ka* "from, off, away, out of, across, about, concerning, than", *ku* "on, onto, into, with regard to, with, by means of" (Luling), Bayso *ko* postp. "from" (Haberland & Lamberti 1988, 110); cf. also the dative ending in Saho *-k*, Konso *-ʔ*, Sidamo *-ho*, Burji *-ha ~ -ga* (Dolgopolsky 1973, 259; Hetzron 1980, 17) || Omotic: (North) Kaffa *-ka* "per", Yemsa *-k* "in comparison with" (Cerulli; see Dolgopolsky 1973, 260: Cushitic + Omotic) || Chadic: (Central) Buduma *gə*, Logone *ga, gɛ* "zu" (Lukas).

NB2: The origin of this preposition & postposition is common with the interrogatives & relatives attested in:

Semitic: Mehri *kóh, kō(ʔ)* "how?; why?", Jibbali *kóh* id., Hobyot *kó* id. (Johnstone 1987, 200); further Ugaritic *ik(m)*, Hebrew *ʔēk(ā)* "how?; why?" (Segert 1984, 179) || Berber: (North) Ghadames pron. rel. & indef. *kɪ* "ce que, quoi, le quel, laquelle, que, chose qui..", *əmmək* conj. "de sorte que, de manière que", adv. "comment" (Lanfry 1973, 143, 208) || Egyptian (Pyramid Texts) *ḫnj* "wo?", Coptic (S) *ⲧⲱⲛ* id. (Edel 1955-64, 90) || Cushitic: (North) Beja *káku, kāk* "wie?" (Reinisch 1894, 41, §192) | Somali *kee*, Digil *koo* "which" (Lamberti 1993, 328), Oromo *kam(i)* "which?", *akka* conj. "that"; prep. "as, like", adv. *akkam* "how" (Gragg) || Omotic: (North) Anfillo *ko-nee* "who?", Shinasha *koo-nní*, Kafa *koo-ne*, Mocha *ko* id. (Lamberti 1993, 328) || Chadic: (West) Hausa *ka, kaaka* "how?" | (Central) Bura *ga* "what?", Logone *ɣwaní* id. (Lukas) | (East) Sumray *kaana*, Sokoro *kaŋkema* id., Mubi *gin* "who?" (Lukas 1937, 86, 191).

9) IE *\*me-ǵ<sup>h</sup>(s)ri-* "near", lit. "at hand" ~ Egyptian *mdy* "with, by", lit. "at hand" || Arabic *mafa* "with", lit. "at \*hand"

IE *\*me-/ṃǵ<sup>h</sup>(s)ri-* "bei, bis" (P 702-03; M 745) > Arm *merj* "bei", *merjenam* "nähere mich", cf. *jeřn* "Hand" < *\*ǵ<sup>h</sup>es-r-ṃ* (Hamp, *Revue des études arméniennes* 17[1983], 7 proposes the starting point *\*(s)meǵ<sup>h</sup>r-i*) || Gr *μέχρι(ς)* "bis" < *\*me-* plus the loc. of *χεῖρ* "Hand", besides *ἄχρι(ς)* id. < *\*ṃ-*.

The IE preposition *\*me-ǵ<sup>h</sup>(s)ri-* "near", lit. "at hand" formally corresponds to Egyptian *mdy* "mit, bei" (Wb. II, 176-77) which can be analyzed as the preposition *m* "in, aus, von", while *d* is the phonetic value of the sign "hand" (~ Semitic *\*yady-u* "hand"). The analogous formation occurs in the preposition *mɤ* "in der Hand von.., durch die Hand jemand, wegen" (Erman & Grapow II, 1, 45) where *ɤ* means "hand, arm". In Semitic an exact cognate appears in Arabic *mafa* "with" and a formal parallel in *lada(y)* "auprès de"



< *li* "à" & *yad* "main" (Vycichl 1983, 145). Regarding such striking paralelism, it is tempting to relate IE *\*me-* (cf. *\*me(-)d<sup>h</sup>i* and *\*me-tH<sub>d</sub>/ti*) and the corresponding *\*mV-* in Semitic and Egyptian. Let us mention that the prefix *\*mV-* forms nomina instrumenti in Afroasiatic languages.

NB1: The forms *\*me(-)d<sup>h</sup>i* and *\*me-tH<sub>d</sub>/ti* are reconstructed on the basis of the following data:

*\*med<sup>h</sup>i* "zwischen, inmitten, unter" (B 856-59; P 706-07, 702-03)

OInd *mādhyā-*, Gatha Av *maidia-*, later *maidia-* "mitlerer; Mitte", Shugni *mīd* "Mitte, Taille", Osset *mīd-/med-* "in, innerhalb, inmitten"; Av *maidīāna-* "Mitte, Zentrum", MPers <mdy'n>, Pers *miyān* "Mitte, inmitten, zwischen", Parth *mdy'n*, Sogd *myδ'n*, Khot *myāna-* "middle"; superl. OInd *madhyamā-* (*\*madhamā-* < *\*med<sup>h</sup>īmo-*), Av *maδama-* id. = Goth *miduma* "die Mitte" (EWAI I, 303-04; Bailey 1979, 340-41) || Arm *mēj* "Mitte" || Gr (ep.) μέσος, (Att) μέσος, (Cret, Boeot) "mitlerer", already Myc *me-sa-to* m., -ta f. = μέσ(σ)ατος "de calidad media" (Aura Jorro 1985, 441) || ?Venet river-name *Meduana* || Lat *medius*, Osc *mefiat* "in mediā", *messimas* ± "medioximas" || Gaul *medio-* in *mediotamica* (Graufesenque) "(vins) de qualité moyenne" (Lambert 1994, 145); NL *Medio-lānum*, the river-name *Meduana*; OIr *mid-* (*\*med<sup>h</sup>u-*) in compounds "medius", *immedōn* "in medio", Mlr *mide* "Mitte", MWelsh *mywn*, Welsh *mewn* "in" (*\*medu-gno-*), MWelsh *mei-iau* "Mittel-Joch" (*\*med<sup>h</sup>īo-*) || Goth *midjis*, OIc *miðr*, OEng *midd*, OHG *mitti* "medius", superl. Goth *miduma* "die Mitte", OIc *mjǫðm* f. "Hüfte", OEng *midmest* "der mittelste", *medeme*, OHG *metemo* "mediocris", Goth *\*midjuma-* in *midjun-gards*, OEng *middan-geard* "Erdkreis", OHG *mittamo* "mediocris", in *mittamen* "inmitten", *mittar* "medius"; Goth *miþ*, OSax *mid(i)*, OEng *mið*, OIc *með(e)*, OHG *mit(i)* "mit" (but the derivation from *\*metí* is possible too) || OPr *median*, Latv *mežs* "Wald, Gehölz", Lith *mēdžias* "Baum"; cf. the Lith river-name *Meduža*, suggestively corresponding to *Metuje*, earlier *Meduja* in Eastern Bohemia || OChSl *mežda* "Strasse" (*\*medja*), R *mežá* "Grenze, Rain", besides OChSl *meždu* "zwischen" (adv., prep.; orig. loc. du.), R *meži* id., Cz *mezi* id. (orig. loc. sg.) || Toch A *mācriṃ* "southeast" (Winter 1988, 781-82) or "south" (Pinault 1998, 364) < *\*mācār<sup>o</sup>* < *\*māTīār<sup>o</sup>* < *\*med<sup>h</sup>ir<sup>o</sup>/\*med<sup>h</sup>ier<sup>o</sup>* < *\*med<sup>h</sup>i* & *\*H<sub>2</sub>eier/\*H<sub>2</sub>ir* "mid-day" (Av *aiiarə* "day", Goth *air* "early"); B *omotruññaiše* "southerly, southern, of the south" < *\*æn-motār<sup>o</sup>* < *\*H<sub>1</sub>ṇ-m[e]d<sup>h</sup>īrṃ*, where the effect of the palatalization of *\*d<sup>h</sup>* was neutralized in the final cluster, cf. B *procer* "brother" < *\*b<sup>h</sup>rātēr* : acc. sg. *protār* < *\*b<sup>h</sup>rātṛṃ*.

*\*meta* "zwischen, mit" (P 702-03) = *\*metH<sub>2</sub>* "between, with" (Be 221)

Gr prep. μετώ with dat. "with", with dat. "among", already Myc prep. with dat. *me-ta* "with" (Aura Jorro 1985, 441-42), cf. Μετάριοι, Hellenized Μεσσάριοι, NP in Aetolia || Illyr *Metu-barbis* "zwischen (loc.) Sumpfen", NL by Sava (Plin. *NatHist* III, 148), Μέτουλον (Strab. IV, 207) || Alb *mjet* "Mittel", *mje* "till" (M 762) || ? Messap *Met-aurus* "Mittelfluss", NL in Umbria and Bruttium (Krahe 1955, 95, 103) || ? Ligurian *Os Metapīnum* 'the mouth of Rhôna' "zwischen den Wassern" || OIc *með(r)* "mit, zwischen", Goth *miþ*, OEng *mið*, OHG *mit(i)* "mit" (< *\*metí*, if it does not continue *\*med<sup>h</sup>i*).

10) IE *\*pe-/po-* "after, away" ~ Semitic *\*pa* "then, and"

a) \**pe* / \**po* "weg" (Hackstein 1997, 47; Be 220: \**H<sub>2</sub>pó* = EIEC 42: \*(*H<sub>4</sub>*)*pó*) > Av *pa-zdaiietī* "löst wegrücken, scheucht", Khot *pa-* e.g. in *pa-ysan* "know" = R *po-znár*, Sogd *pa-rēč-* "leave" = Lith *pa-lėkti* id., Osset *fæ-* e.g. in *fæ-zūryn* : *zūryn* = R *pozvar* : *zvař* "to invite", including the perfective function of the prefix (Abajev 1965, 65-68) || Hitt *pē* / *pa*: *pē har(k)-* "hold, keep (possession), bring along, have along" (CHD 1994f, 253f) : *hark-* "hold, keep, have" (Puhvel 1991, 145-57) = Lat *porceō* "hold off" (\**po-arc<sup>o</sup>*) : *arceō* "hold in", Hitt *pai-* "go (by / past), pass" (CHD 1994f, 18f), Luw 3 sg. imper. *paiddu* : Hitt *i-* "go", *iya-* "go, come, walk, march" = R *pojti* "go away" : *idti* "go", Lyd preverb & conj. *fa-* (Puhvel 1984, 325-35; Ajchenval'd, Bajun & Ivanov 1985, 52; Melchert 1994, 335) || Alb *pa* "without" (with acc.), *pa-* "un-" || Messap *pades* "dedicavit" < \**po-d<sup>h</sup>ēs-t*, *padazeran* "posuerunt" < \**po-d<sup>h</sup>ēkjēront* with \**-j-* after present (Haas 1962, 66, 170, 217) || Lat *pōnō* (\**po-s[i]nō*) : *po-situs*, *po-liō*, *po-lūbrum*, *pōrcet* (\**po-arcet*) || OFris *fān*, OSax *fān(a)*, OHG *fon(a)* "von" (with dat. = \*abl.) || BSL \**pō-* > Lith *pó-*, OPr *pō-* = Sl *pa-* in OChSl *paměť* "memory", *paměněti* "to remember" etc.; besides Lith *po-* in *pabėgti* "run away" = R *pobég* "flight, run", *pa-upė* = R *po-reče* "riverside", but Lith *pa-tėvis* "father-in-law" : R *pa-synok* "stepson" (Hamp, *Baltistica* 4.2[1968], 255-57) || Toch imper.: A *pāklyoṣ*, B *pāklyauṣ* "hear!" = Cz *poslyš!* id.

b) \**pos* "unmittelbar bei, hinter" (B 888-90; P 841-42: \**p-* + *-os*, gen.-abl. from \**ep-* ?) = \**pos* "after" (Be 221) = \**pos* "immediately adjacent; behind, following" (EIEC 42: \**H<sub>1</sub>ep-* "near, on" or \**H<sub>4</sub>ep-* + gen. \**-os*)

Gr (Arc-Cypr; Gr inscriptions from Phrygia) *πός* || Lith *pàs* prep. "an, bei", *pāstaras* "der letzte, hinterste" || OChSl *po* "hinter, nach", *-s* is preserved in the forms with the *d*-extension: *poz-dě* adj. "spät", *poz-dě* adv. "spät".

\**post(H)i/u* > Arm *əst* "nach" adv. & prep. "nach = secundum, gemäss", ? *stor* "der untere Teil" || OLat *poste*, Lat *post* adv. & prep. with acc. "nach, hinter", Osc *púst*, *post*, Umbr *post*, *pus* adv. & prep. with acc. "post"; further Lat *posterus*, Osc *pústreī* "in postero", Umbr *postra*; Lat *postumus*, Osc *pustma[s]* "postremae"; Umbr *postne*, Lat *pōne* < \**posti-ne*; Osc *pústin*, Umbr *pustin* prep. with acc. "je nach" (\**posti en*); Lat *posticus* "hinten befindlich" || Toch B *pest* & *päst* "away, back", *postām* "finally, afterwards" < \**postu-nu* < \**pé-/po-* + \**stH<sub>2</sub>-u* (Adams 1999, 382, 400, 405; Hackstein 1997, 45-50).

c) \**posk<sup>(u)</sup>o-* > OInd *paścā* (instr.) adv. "hinten, nach, zurück, westlich, später", Av *pasčā* prep. "hinter, nach", Khot *pātcu* "nachher", Osset *fæš-* "hinter", OPers *pasā* "nach", in Elamite transcription \**pasčā<sup>o</sup>* "unter-, Nach-, Vize-", Parth *paš*, (M)Pers *pas* "dann, nachher, hinten", Parači *pēš* "behind"; OInd *paścāt* (abl.) prep. "hinter, nach, westlich", Av *paskāi* adv. "von hinten her, hinterdrein", Khot *paska* "back", Yazgulami *paski* id. (EWAI II, 110; Abajev I, 456; Bailey 1979, 225) || ? Alb *pas* ~ *mbas* adv., prep. "behind, after" (Hamp, *KZ* 75[1965], 23) || Lith *paskuī*, *pāskui* (dat.) adv. "hinterher, nachher", prep. "nach", from older *pasakuī*. Adams (EIEC 43) proposes the segmentation \**po-* + \**sk<sup>h</sup>o-*, deriving the latter component from \**sek<sup>h</sup>-* "to follow".

d) \**poti* "gegenüber, entgegen, gegen" (B 891-93; P 842: \*(*a*)*po-* + *-ti*) = \**poti* "(over)against" (Be 221)

Gatha Av *paitī*, later *paiti*, OPers *patiy* preverb. & prep. "gegen, entgegen, zu, auf, bei; an, für, um; von - aus, an - hin, in", ZorPhl *pat*, Pers *bad-* & *bah* "zu, bei", Khot

*patā* "before, in front of" (EWAI II, 174; Bailey 1979, 205) || Gr (Hom, Boeot, Lac) *πоти* "πρός", preverb. & prep. "gegen - hin, gegen, gegenüber; an, zu; an - hin, von".

|| Semitic: Ugaritic *p* "und, dann; nun; aber", Arabic *fā-* "and; then", Sabaic *f* "and, so; then" (Aistleitner 1965, 251); cf. Geez *fe* "to this side, in the direction of, that way" (Leslau 1987, 154).

11) IE *\*perH<sub>2</sub>* - "in front of, before" ~ AA *√p-r-ʿ* "first"

a) *\*per(i)* loc. "vorwärts, im Hinausgehen, Hinübergehen über, im Durchdringen, im Übermass", from here "über - hinaus, durch - hin" (B 865-71; P 810-11) = *péri* "over" (Be 221) > OInd *pári* "rings, ringsum, um, herum, von - her, wegen, gemäss", Av *pairī* "inmitten von, um", later *pairi* "um - herum, bei, über - hin", OPers *parī* "über, betreffts", Sogd *pr<sup>o</sup>*, *pyr<sup>o</sup>*, Khot *par<sup>o</sup>*, (M)Pers *par<sup>o</sup>*, Osset *fæ<sup>o</sup>* etc. (EWAI II, 91; Abajev I, 434f) || ? Hitt *par(s)za* & *pirza* adv. "-ward", e.g. *āppa p.* "backward" (CHD 196-97) || Gr *περί*, *πέρ* "ringsum, um, überaus, in betreffts"; Myc *pe-ri<sup>o</sup>* in *pe-ri-ra-wo* = *Περίλωος* || Alb *për*, *pe(j)*; *per* "for" (Orel 1998, 319) || Lat *per* "hindurch, über - hin"; Osc-Umbr *per-* & *pert*; Venet *per* prep. with acc. (Lejeune 1974, 337) || Gaul *eri-*, OIr *ir-* & *er-* (*\*ero-*), Welsh, Corn, Bret *er* || Goth *faír-*, OEng *fyr-*, OHG *fir-* "ver-", OHG, OSax *firi-* id. || OPr *per*, Lith *peĩ*, *per-* "über - hin, um - herum, durch", cf. *per(-)dėdelis* "zu gross", *permāžas* "zu klein" || Sl *\*per-* in OChSl *prě-* in *prěvelikъ* "zu gross", *prědědъ* "Urvater", ChSl *prěotъcъ* "Urvater" etc. (Kopečný 1973, 167-68, 207).

From "vorwärts" the meaning "sehr" developed: OInd *pari-prē-* "sehr lieb" || Gr *περι-καλλής* "sehr schön" || Lat *per-magnus* "sehr gross" || Lith *peĩ-didis* "zu gross" || OChSl *prě-blagъ* "sehr gut".

Other derivatives: Goth *faírra* adv. "fern", prep. "fern von", OIc *ffar(ri)* adv. "fern", OEng *feor(r)* "far", OSax *ferr*, OHG *ferro* adv. "fern, sehr", comp. *ferrōr* < *\*ferero-* vs. the *n*-extension in Toch A *pārne*, B *parna* "outside" < *\*pārānā-i* (Adams 1999, 359); in the temporal sense: (loc. or acc. ?) *\*per-ut(i)* > OInd *par-ūt* "in past years" || Arm *heru* "last year" || Gr *πέρυσσι*, Dor *πέρυτι* "last year" || OIr *ón n-urid* "ab anno priore" (vowel metathesis ?) || OIc *fjorð* "last year", MHG *vert* id. (P 1175); *\*per-H<sub>1</sub>(e)n-* > MHG *verne* "vorjährig", *vern* "im vorigen Jahre", Goth *af faírnin jera* "vom Vorjahre", OSax *fernun gēre*, *fernun iāra* "im Vorjahre", besides Goth *faírneis* "old", OHG *firni* id., OIc *fyrnd* "Alter" || Lith *pėrnai* "im vorigen Jahre", Latv *pērn*s "vorjährig, firn"; cf. also Lat *perendiē* "übermorgen".

b) *\*peros* and fossilized case forms (B 872-73; P 811) > OInd *parás* prep. with acc. "über - hinaus", with abl. "fern von", with instr. "jenseits von" (the final position of the tone indicates the adverbial origin); Gatha Av *par<sup>o</sup>* "darüber hinaus, mehr als etwas", later *parō* prep. with acc. "ausser - abgesehen von", cf. *parō.asna-* "jenseitig, künftig seiend" = Pashto *parūn* "gestern" < *\*para-azn*, OPers *para* "jenseits (von)"; besides the nom. sg. above, the other cases were also grammaticalized: instr. sg. OInd *pārā* adv. "fort, weg, über" = Av *para* adv. "fort, weg, zur Seite" = OPers *parā-* in *parā-ay-* "wegziehen, aufbrechen" (EWAI I, 88-89); loc. sg. OInd *paré* "darauf, fernerhin"; acc. sg. OInd *param* prep. with abl. "hinaus über, jenseits, nach" = Osc *perum*; further OInd *pāra-* adj. "fernergelegen, ferner, äusserst, höchst, jenseitig, Feind; früher; später", superl. *paramā-* "fernster, letzter, bester, höchster" = Sogd postp. (')*prm(w)* = */paramam/*, besides *prftm*

"letzter" /*parama-tama-*/, cf. also Hispano-Lat (< Lusitanian ?) *paramus* "Hochebene" (EWAI I, 86-88) || Hitt *peran* postp. "before, in front of, in the presence of, in the sight or hearing of; preverb "in front"; adv. "previously, at first, in advance", Luw *parran*, HierLuw *pa-ra/i-na* ""before, in front" < \**pérem* (CHD 291-312; Melchert 1994, 122, 124, 242) || Arm *heri* "entfernt, fern" || Gr *πέπᾱ(v)*, Ion *πέπην* adv. (orig. acc. sg. f.) & prep. with abl. (gen.) "darüber hinaus, jenseits"; *πέπᾱ* "darüber hinaus, jenseitis" (orig. instr. sg. from \**pero-*) || Lat *pre-perām* "verkehrt", *per-perus* "falsch"; Osc *perum* "sine" || OIr *īre* "weiter, länger" (\**perjo-*).

c) \**prai*, \**pṛai*, \**pṛi* (B 880-83; P 811-12) = \**preH<sub>2</sub>i* "at the front" (Be 221: loc.) = \**pṛH<sub>a</sub>éi* "in front of; before (of time)" (EIEC 60-61; Hamp 1997, 48: dat.) > OInd *paré* "daraufhin" (orig. loc. sg.) || ? Hitt *pariyan*, *parean* postp., preverb., adv. "across, over, beyond", postp. "over to, across to; in opposition to; adv. "in front; beyond ?, besides ?" (CHD 151-53; Melchert 1994, 117 determines the adverbial particle *-an*; Hamp 1997, 48 speculates about an *aniṣ*-starting form or about a source of the type \**pr-i-*, cf. also Gr Cret *πειν*, Lat *pri*, OPr *prei*, Lith *priē*, Sl *pri*) || Gr *παρά* "*παρά*" (Hamp 1997, 48: dat. sg. \**pṛf-éi*) || ? Alb *pa* "bevor", if it is derivable from \**pari-* (Jokl, IF 37[1916-17], 107-08); Orel 1998, 307 derives it from \**apo* || Lat *prae* pref. "voran, voraus, überaus", prep. "vor, wegen", comp. *praeter* "vorbei an = ausser, ausgenommen" (\**prai-tero-*), Osc *prai*, *prae-*, Umbr *pre* pref. & prep. "prae", *pretra* "priōrās" || Gaul *are-* in *Are-morica*, *Are-brigium*, OBryth *Are-clūtā*, Ir *an-air* "von Osten"; Celtib *āre(i)-* "(be)fore" in *ārei-Tena* "davor befindlich", *ārei-talo* "region" ? = Welsh *ar-dal* "border(land)" (Hamp, *Études celtiques* 27[1990], 190-91) or *āre-sTalo* "Vorstehrer" (Meid 1993, 85-87; Id. 1996, 147) || OHG, OSax *furi* "vor, für, vorbei", OIc *fyr* "vor, für"; OHG comp. *furiro* "der frühere, vordere", superl. *furist* "erster, vornehmster", OSax *furist*, OEng *fyr(e)st* "first", OIc *fyrr* adv. "früher, vorher" etc. || Toch A *pre* "draussen vor" (Hackstein 1997, 42-45). Sometimes the following BSL forms have been included: Lith *priē* "bei, an", nominal pref. *prīe-*, *priē-*, *prīe-*, *prý-*, preverb *pri-*; prep. *priēš* "gegen", *prīeš* "vor", Latv *priē(k)ša* "das Vordere" (\**preitiā*), *piere* "Stirn, Vorderseite" (\**pr<sup>o</sup>* ?), OPr *prei* "zu, bei", as pref. also "auch, vor, an" || OChSl *pri* prep. & pref. "bei, an, zu", but they reflect \**prei-* and are compatible only with OLat *pri* "en avant, d'avant" and Gr Cret *πειν*. OChSl *prēdъ* "at the front" and *prēzъ* "über - hin" are derivable from \**perdъ* & \**perzъ* respectively (see Kopečný 1973, 215 with a detailed discussion).

d) \**pṛā* "vormals, vor" (B 884; P 813) = \**pṛH<sub>2</sub>-éH<sub>1</sub>* "before" (Be 221: instr.) = \**pṛH<sub>a</sub>-éH<sub>1</sub>* "in front of; before (of time)" (EIEC 60) > OInd *purā* adv. "vormals, früher; ehe, bevor", prep. "vor, ohne, ausser", *purāṇā-* "alt, vergangen"; Gatha Av *parā* "vor, bevor", later *para* "zuvor, vor, vordem", OPers *parā* adv. "zuvor", prep. "vor", *paranam* adv. "vormals", Pers *paran* "gestern" (EWAI II, 147) || Hitt *parranda* postp., adv., preverb "across, over; over to, across to" < \**parā(+)*anda (CHD 135-37) || ? Arm *aṛ* adv. & prep. with acc., loc., instr. "bei, an, neben" (P 816 connected Arm with Gr *πάρῳ*, *πάρῳ* "vorwärts", Lat *porrō* "id., fürder" < \**pors(ō)d*) || Gr *παρά*, *πάρα* verbal pref. "vor - hin, dar-", prep. "an etwas hin, entlang, neben; während; bei, aus der Nähe weg, von seiten", Aeolic *πάρα*, corresponding to Myc *pa-ro* (Aura Jorro 1993, 85-86; Hamp 1997, 48, fn. 8: -o < \*-ṛ) || Alb prep. with gen. *para* "before", *pardje* "the day before

yesterday" || Goth *faúra* "vor, davor, vorne", OHG, OSax *fora* adv. "vorn, vorher", verbal. pref. "vorher, voraus, vor", prep. "vor", OEng *fore* prep. "vor".

e) *\*p<sub>g</sub>res*, *\*p<sub>g</sub>ros* "vor" (B 883; P 812) = *\*p<sub>g</sub>H<sub>2</sub>ós* "before" (Be 221: gen.) = *\*p<sub>g</sub>H-és/-ós* (EWAI II, 147) > OInd *purás* adv. & pref. "voran, vorn", prep. "vor", Av *parō* adv. "vorn, vordem", prep. "vor" || Gr *πῶρος* adv. "früher; voran, vorn", prep. "vor"; in compounds the *aniť*-form *\*pres-*: *πρέσ-βυς*, *-γυς* "alt" = "im Alter vorangehend" || ? OIr *arsaid*, *arsid* "vetus" < *\*p<sub>g</sub>H<sub>2</sub>os-stH<sub>2</sub>is* "im Alter voran seiend" || OHG, OSax *frist*, OEng *frist* "Frist" < *\*pres-stHi-*, Oic *frest* id. < *\*pres-stHo-* || Toch A *prašt* (*\*prēstā*), B *prešciyo/a* (*\*prēst(i)jā*) "time, occasion, season" (Adams 1999, 421).

f) *\*pro*, *\*prō* "vorwärts, voran" (B 873-76; P 813-14) = *\*pro* "before, towards the front" (Be 221) = *\*pró-H<sub>1</sub>* (EWAI II, 174: instr. sg. with the sandhi variant *\*pró H<sub>1</sub>°*) = *\*pro* "forward, ahead, away" (EIEC 61) > OInd *prá-* pref. "vor, vorwärts, fort" (before subst. and verbs), "sehr" (before adj.), Gatha Av *fra-* e.g. in *fra-uuač* "verkünden" = Ved *prá-vac*, later Av *fra-* e.g. in *fra-zaiñti-* "Nachkommenschaft", OPers *fra-* e.g. in *fra-māna-* "Befehl", MPers <pl> = *fra°*, Pers *far°*, Parachi *rha°*, BuddhSogd *pr°*, Tumshuq Saka *ra°*, Khot *ha°*, Wakhi *ra°*, *re°*, Osset *ra°*, *læ°* etc. (Abajev II, 16f, Bailey 1979, 438; EWAI II, 173-74) || Hitt *parā* adv., preverb, postp. "out (to), forth, toward; out of, from; forward, further, along; further(more), moreover, additionally, still; then, after that; over to; fully, completely" (CHD 109-32; cf. Melchert 1994, 123; *\*prō*; Hamp 1997, 48; Adams, EIEC 61) || OPhryg *pro-* in the title *proitawos* "governor", formally corresponding to the Gr NV *Προΐτας*, the name of a legendary king of Tiryns (Woudhuizen 1993, 3) || Gr *πρό* preverb "vor"; prep. "vor", cf. also *προ-πάτωρ* "Grossvater", lit. "Urvater"; Myc *po-ro-* in *po-ro-ko-wo* = Hom *πρόχοος*, Att *πρόχους* : *χέω* (Aura Jorro 1993, 148) || Lat *prō-*, *prō-* in compounds, e.g. *pro-nepōs*, *prō* prep. "vor, für"; Osc-Umb. preverb *pro-*, *pru-* || Celtib *fo-* in *fo-PišeTi* 3 sg. pres. subj. (Eska 1989, 90); Gaul *ro-* in *ro-siru* (Graufesenque) "trop long" < *\*pro-sērū* (Lambert 1994, 143), cf. ND *Ro-smerta*; OIr *ro-* preverb & intensifying pref., e.g. in *ro-már* "zu gross", Welsh *ry-*, OBret *ro-*, *ru-*, (M)Bret *ra-* id. || Goth *fra-*, OHG *fir-* "ver-", besides *fruo* "früh" || OPr *pra*, *pro* "durch", preverb "ver-", Lith *pra*, *prō* "vorbei", preverb "vorbei, durch-, ver-", Latv *pruō-jām* "weg, fort" || OChSl preverb *pro-* "durch-, ver-", Cz *pro* "wegen", besides R *prá-děd*, SCr *pr'à-djed* "Urgrossvater" < *\*prō-* (Kopečný 1973, 216-20, 205-08) || Toch A *ana-pār*, B *ene-pre* "before, in front of" < *\*H<sub>1</sub>on-e* + *\*pro* (Adams 1999, 84).

g) *\*prot[m]mo-* > OInd adj. *prathamā-* "erster, vorderster, frühester" || MPers *pahlom* "bester, erster, exzellent" (*-th-* from the contamination of the superlative suffixes *-tamā-* vs. *-tha-* & *-ma-*), besides adv. *pratamām* "besonders, vorzugsweise" = Av *fratama-*, OPers *fratama-* "vorderster" (EWAI II, 179) > *\*protero-* > OInd *pratarām* "weiter, ferner, künftig", Av *fratara-* "voranstehend", OPers *fratara-* "überlegen" (EWAI II, 179) || Gr *πρότερος* "der vordere, der vorige".

h) *\*preti*, *\*proti* "gegenüber, entgegen, gegen" (B 877-88; P 815-16) = *\*préti*, *\*proti* "(over) against" (Be 221) > OInd *práti* pref. "gegen, zurück", prep. "gegen, entgegen, nach - hin, zur Zeit von, um"; ? Av *pərəskā* "Preis oder Wert" < *\*p<sub>g</sub>ṛ-skā* || Arm pl. *eres-k'* "Gesicht, Miene, Anblick, Vorderseite" < *\*proti-H<sub>3</sub>k'-(ik'-)ā* = Gr pl. *πρόσωπα* "Gesicht, Antlitz" < *\*proti-H<sub>3</sub>ōk'-₂* (Hamp 1984, 153) || Gr (Hom) *πρῶτι*, Ion-Att, Lesb *πρός* (cf. *πρόσω* "vorwärts" < *\*protiō*), Pamph *περτί* (*\*περτί*), Aeolic *πρές* adv. "noch

dazu, überdies", pref. prep. "gegen - hin, zu, gegen, an, nach einem Bereich hin; bei; von - her, von" || Lat *pretium* "Wert, Preis einer Sache", ntr. from the unattested adj. *\*pretjos* || Latv *pretie, pretī, pret* "against" || OChSl, OR *protivъ, protivъ* "entgegen", originally from *protiva* attested in OCz & Slk (Kopečný 1973, 222-27) || Toch A *pratsak*, B *pratsāko* "breast" (*\*protǵ-H<sub>3</sub>ōk<sup>h</sup>-eH<sub>a</sub>-*, see Adams 1999, 413; concerning semantics, he confronts Lith *añtis* "breasts" : Goth *endi* "forehead") = Gr πρόσσωπον "Antlitz, Gesicht, Blick, Maske" (*\*proti-H<sub>3</sub>ōk<sup>h</sup>-*) = OInd *prātīka* "Oberfläche, Antlitz, Gestalt" (*\*proti-H<sub>3</sub>k<sup>h</sup>-*, see EWAI II, 177).

|| Semitic  $\sqrt{p-r-f}$  > Ugaritic *prf* "first; excellent, the best; chief", Hebrew *peraf* "chief", Arabic *farf* "top (of branch)", *farfiyy* "first(-born)" (Bomhard 1984, 191; Blažek 1999, 157: IE + Semitic).

12) IE *\*senH<sub>1</sub>-i* "without", lit. perhaps "for itself" ~ AA *\*sin-a* "to, for"

IE *\*sen-*, *\*spn-* "abseits von" (B 893-94) = *\*seni-* "für sich, abgesondert" (P 907) = *\*spH<sub>1</sub>i* "without" (Be 221) > Gr ὅντις "ohne" || Lat *sine* "ohne" < *\*seni* < loc. *\*spH<sub>1</sub>i* (Beekes) or *\*sénH<sub>2</sub>i* (Hackstein 1997, 54) || OIr *sain* adj. "verschieden, besonders" < *\*spH<sub>1</sub>i-*; Welsh *o-han, a-han* "von", *gwa-han* "getrennt, verschieden"; OWelsh *han* "alium"; Welsh *hanes* "Erzählung" = Mlr *sanas* "Geheimnis, Lispeln" < *\*sani-stā* || Toch A *sne*, B *snai* "without" < pToch *\*s(ā)nai* < dat. *\*spH<sub>1</sub>éi* (Adams 1999, 712-13) or loc. coll. *\*spH<sub>2</sub>-éH<sub>2</sub>-i* (Hackstein 1997, 54 who also proposes a primary nomen actionis nom. sg. *\*sénH<sub>2</sub>-s* "Verborgensein, Fehlen", gen. *\*spH<sub>2</sub>-és*, derivable from IE *\*senH<sub>2</sub>-* "verborgen sein" > Hitt *sanna-* "verheimlichen, verschweigen", following N. Oettinger).

Cf. also OInd *sanu-tār* "abseits von, weit weg, fort" < *\*spHu-* (EWAI II, 697); Av *hanarə* "abseits, ohne" || Gr (Ion) ὄτεπ "abseits, ohne" < *\*sp-ter* || OSax *sundir* "ohne", OHG *suntar* "abgesondert; aber, dagegen", OEng *sundor* "für sich, besonders", Oic *sundr* "entzwei", Goth *sundro* "für sich, abseits, besonders".

|| Semitic *\*šina* > Eblaic *si-in* & *šf-in* "vers, sur" (Limet 1984, 62) = "to, for" (Gelb 1987, 70); Sabaic *s<sub>1</sub>(w)n* "towards, in front of; next to, by", *b-s<sub>1</sub>n-* "with" (SD 127, 129: "cf. also *s<sub>3</sub>n*, *b-s<sub>3</sub>n* 'to, up to; next to, by' vs. *s<sub>3</sub>n* 'customary law' - see SD 139; Conti Rossini 1931, 198: *s<sub>1</sub>n* praep. 'versus, prope'. Biella (1982, 330) adds the translation "in the direction of" || Berber: Ayr & Awlemidden *sen* adv. "vers là-bas, dans cette direction-là; plus loin dans cette direction-là" (Alojaly 1980, 176). Does it belong to Kabyle *s ani* "vers où, où" : *ani* "où" (Dallet)?

NB1: In SD 127 the Sabaic preposition is derived from  $\sqrt{s_1-n-n}$  attested in Sabaic *t-s<sub>1</sub>n* "to decree (deity); be decreed", *s<sub>1</sub>nt* "rule, code, customary law"; Conti Rossini 1931, 198 compared it with Arabic *sanān* "via", cf. also *sanna* "to follow the path" quoted by Biella (1982, 330).

#### IV. Conclusion

It is apparent the process of creation of the prepositions (& postpositions) was parallel in both the Indo-European and Semitic families: From fossilized case-forms of certain nouns to adverbs, which were finally grammaticalized, or directly to prepositions. This process could really be a result of convergence between Indo-European and Semitic



protolanguages, caused probably by their neighbourhood. The cognates in other Afroasiatic branches confirm the Afroasiatic age of the Semitic prepositions. For the material correspondences of Indo-European and Afroasiatic forms, in spite of certain semantic differences, fully comparable with the semantic dispersion in the IE material proper, the hypothesis of a common heritage seems to be not only quite legitimate, but also most promising.

### Abbreviations

AA Afroasiatic; Alb Albanian; Arc Arcadian; Arm Armenian; Att Attic; Av Avestan; Balt Baltic; Boeot Boeotian; Bret Breton; BSl Balto-Slavic; Celt Celtic; Celtib Celtiberian (usually of Botorrita, if it is not expressed explicitly); Corn Cornish; Ch Church; Cret Cretan; Cypr Cypriote; Cz Czech; Dor Doric; Eng English; Fris Frisian; G German; Gaul Gaulish; Goth Gothic; Gr Greek; H High; Hier Hieroglyphic; Hitt Hittite; Hom Homeric; Ic Icelandic; Illyr Illyrian; Ind Indian; Ion Ionian; Ir Irish; Iran Iranian; Khot Khotanese; L Low; Lac Laconian; Lat Latin; Latv Latvian; Lesb Lesbian; Lith Lithuanian; Luw Luwian; Lyc Lycian; Lyd Lydian; M Middle; Maced Macedonian (ancient); Messap Messapian; ND nomen dei; NL nomen loci; NP nomen populi; NV nomen viri; O Old; Osc Oscan; Osset Ossetic; Pamph Pamphylian; Pers Persian; Phl Pahlavi; Phryg Phrygian; Pr Prussian; R Russian; Run Runic; Sax Saxon; SCr Serbo-Croatian; Sl Slavic; Slk Slovak; Sogd Sogdian; Thes Thessalian; Toch Tocharian; Umb Umbrian; Ved Vedic; Venet Venetic; Zor Zoroastrian.

### References

AAL = *Annual of Armenian Linguistics*.

Abaev, Vasilij I. 1958-73-78-89. *Istoriko-etimologičeskij slovar' osetinskogo jazyka*, I-IV. Leningrad: Nauka.

Abaev, Vasilij I. 1965. *Skifo-jevropejskije izoglossy*. Moskva: Nauka.

Adams, Douglas Q. 1999. *A Dictionary of Tocharian B*. Amsterdam - Atlanta: Rodopi.

AHw *Akkadisches Handwörterbuch*, I-III, ed. by Wolfram von Soden. Wiesbaden: Harrassowitz.

Aixenval'd, Aleksandra Ju., Bajun, Liliya S., Ivanov, Vjačeslav V. 1985. Materialy k rekonstrukcii kul'turno-istoričeskogo processa v drevnej Maloj Azii. In: *Ėpigrafičeskije pamjatniki drevnej Maloj Azii i antičnogo severnogo i zapadnogo Pričernomor'ja kak istoričeskij i lingvističeskij istočnik*, ed. T.V. Blavatskaja. Moskva: Institut vseobščej istorii, 4-97.

Aistleitner, Joseph. 1965. *Wörterbuch der ugaritischen Sprache*. Berlin: Akademie-Verlag.

Ali, Mohammed & Zaborski, Andrzej. 1990. *Handbook of the Oromo Language*. Kraków: Ossolineum.

Alojaly, Ghoubeïd. 1980. *Lexique Touareg-Français*. Copenhagen: Akademisk Forlag.

AMS Amborn, H., Minker, G.. & Sasse, H.-J. 1980. *Das Dullay*. Berlin: Reimer.

- Antonsen, Elmer H. 1975. *A Concise Grammar of the Older Runic Inscriptions*. Tübingen: Niemeyer.
- Aura Jorro, Francisco. 1985-93. *Diccionario micénico*. Madrid: Instituto de Filología.
- Bailey, Harold W. 1979. *Dictionary of Khotan-Saka*. Cambridge: University Press.
- B = Brugmann, Karl. 1911. *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen*, 2.2. 2. Stassburg: Trübner.
- Be = Beekes, Robert S.P. 1995. *Comparative Indo-European Linguistics*. Amsterdam - Philadelphia: Benjamins.
- Beekes, Robert S.P. 1985. *The origins of the Indo-European Nominal Inflection*. Innsbruck: IBS 1985.
- Beguinet, Francesco. 1942. *Il Berbero Nefûsi di Fassâto*<sub>2</sub>. Roma: Istituto per l'oriente.
- Behnk, Frida. 1927. Lexikalische Beiträge zur ägyptisch-semitischen Sprachvergleichung. ZÄS 62, 80-83.
- Biella, Joan Copeland. 1987. *Dictionary of Old South Arabic. Sabaean Dialect*. Chico: Scholar Press.
- Blažek, Václav. 1997. IE \*leub<sup>h</sup> - "to love". *Sborník prací Filosofické fakulty Brněnské university* A 45, 19-25.
- Blažek, Václav. 1999: *Numerals. Comparative-etymological analyses and their implications*. Brno: Masarykova universita.
- Blažek, Václav. 2000. New Solutions in Slavic Etymology. In: *Studia Etymologica Brunensia* 1, eds. I. Janyšková & H. Karlíková. Praha: Euroslavica, 357-364.
- Bomhard, Allan R. 1984. *Toward Proto-Nostratic*. Amsterdam - Philadelphia: Benjamins.
- Brockelmann, Carl. 1908-13. *Grundriss der Vergleichenden Grammatik der Semitischen Sprachen*, I-II. Berlin: Reuther & Reichard.
- Brockelmann, Carl. 1938. Neue ägyptisch-semitische Etymologien. In: *Scritti in onore di Alfredo Trombetti*, ed. C. Tagliavani. Milano: Hoepli, 143-154.
- BSL = *Bulletin de la Société de Linguistique de Paris*.
- CDA A *Concise Dictionary of Akkadian*<sub>2</sub>, eds. Jeremy Black, Andrew George & Nicholas Postgate. Wiesbaden: Harrassowitz 2000.
- CHD = *The Hittite Dictionary P*, eds. H.G. Güterbock & H.A. Hoffner. Chicago: The Oriental Institute of the University of Chicago 1994f.
- Cohen, David. 1970f. *Dictionnaire des racines sémitiques*. Paris - Le Haye: Mouton.
- Cohen, David, et al. 1970f. *Dictionnaire des racines sémitiques*. Paris-La Haye: Mouton.
- Conti Rossini, Karolus. 1931. *Chrestomathia Arabica Meridionalis Epigraphica*. Roma: Istituto per l'Oriente.
- Černý, Jaroslav. 1976. *Coptic Etymological Dictionary*. Cambridge: University Press.
- Dallet, J.-M. 1982. *Dictionnaire qabyle-français*. Paris: SELAF.



# Indo-European and Afroasiatic Prepositions

- Diakonoff, Igor M. 1990. The Importance of Ebla for History and Linguistics. In: *Eblaïtica: Essays on the Ebla Archives and Eblaïte Language*, eds. by Cyrus H. Gordon & Gary A. Rendsburg. Winona Lake: Eisenbrauns, 3-29.
- Dolgopolsky [Dolgopolskij], Aron. 1973. *Sravnitel'no-istoričeskaja fonetika kuštskix jazkov*. Moskva: Nauka.
- Dolgopolsky, Aron. 1991. Two problems of Semitic historical linguistics. In: *Semitic Studies in honor of Wolf Leslau on the occasion of his 85th birthday*, ed. by A. S. Kaye. Wiesbaden: Harrassowitz, 328-339.
- Dolgopolsky, Aron. 1999. *From Proto-Semitic to Hebrew. Phonology*. Milano: Centro Studi Camito-Semitici.
- Dunkel, George E. 1988. Laryngeals and particles: *\*h<sub>2</sub>u*, *\*u*, and *\*awo*. In: *Die Laryngalthorie*, ed. A. Bammesberger. Heidelberg: Winter, 107-121.
- Edel, Elmar. 1955-64. *Altägyptische Grammatik*. Roma: Pontificium Institutum Biblicum.
- EIEC = *Encyclopedia of Indo-European Culture*, eds. J.P. Mallory & D.Q. Adams. London - Chicago: Fitzroy Dearborn Publishers.
- Ember, Aaron. 1930. *Egypto-Semitic Studies*, ed. by Frida Behnk. Leipzig: A. Kohut Memorial Volume.
- Erhart, Adolf. 1987. Zur Morphologie der indoeuropäischen Präpositionen. *Sborník prací Filozofické fakulty Brněnské univerzity A* 35, 121-124.
- Erman, Adolf. 1892. Das Verhältniss des Aegyptischen zu den semitischen Sprachen. *ZDMG* 46, 93-129.
- Eska, Joseph F. 1989. *Towards an interpretation of the Hispano-Celtic inscription of Botorrita*. Innsbruck: IBS 59.
- EWAI = Mayrhofer, Manfred. 1986f. *Etymologisches Wörterbuch des Altindoarischen*, I-II. Heidelberg: Winter.
- Friedrich, Paul. 1987. The Proto-Indo-European adpreps (Spatio-temporal auxiliaries). In: *Festschrift for Henry Hoenigswald*, eds. G. Cardona & N.H. Zide. Tübingen: Narr, 131-142.
- Foucauld, Charles de. 1951-52. *Dictionnaire touareg-français, dialecte de l'Ahaggar*, I-IV. Paris: Imprimerie nationale.
- GAG *Grundriss der akkadischen Grammatik*<sub>3</sub>, by Wolfram von Soden. Roma: Editrice pontificio istituto biblico 1995.
- Gamkrelidze, Tamas V. & Ivanov Vjačeslav V. 1984. *Indoevropskij jazyk i indoevropjcy* I-II. Tbilisi: Izdatel'stvo Tbilisskogo univerziteta.
- GAS = *Die Grösseren altkeltischen Sprachdenkmäler*, eds. W. Meid & P. Anreiter. Innsbruck: IBK 95.
- Gelb, Ignace J. 1987. The language of Ebla in the light of the sources from Ebla, Mari, and Babylonia. In: *Ebla 1975-85. Atti del convegno internazionale (Napoli,*

- ottobre 1985), ed. by Luigi Cagni. Napoli: Istituto universitario orientale, Dipartimentodi studi asiatici, Series Minor 27, 49-74.
- Gragg, Gene. 1982. *Oromo Dictionary*. East Lansing: African Studies Center.
- Haas, Otto. 1962. *Messapische Studien*. Heidelberg: Winter
- Haberland, Eike & Lamberti, Marcello. 1988. *Ibaaddo ka-Ba'iso: culture and language of the Ba'iso*. Heidelberg: Winter.
- Hackstein, Olav. 1997. Präverb, Post- und Präposition im Tocharischen: Ein Beitrag zur Rekonstruktion urindogermanischer Syntax. *Tocharian and Indo-European Studies* 7, 35-60.
- Hamp, Eric P. 1981. Indo-European  $*(H_e)op-$ . *Münchener Studien zur Sprachwissenschaft* 40, 39-60.
- Hamp, Eric P. 1984. On the meaning of Latin *uoltus* and IE 'face'. *Chicago Linguistic Society Meeting* 20.1, 149-153.
- Hamp, Eric P. 1997. ad Meillet, Introduction 350. *Münchener Studien zur Sprachwissenschaft* 57, 47-48.
- Hetzron, Robert. 1973-79. Les affixes casuels couchito-semitiques. *Comptes rendus du Groupe Linguistique d' études chamito-sémitiques* 18-23, 219-223.
- Hetzron, Robert. 1980. The Limits of Cushitic. *Sprache und Geschichte in Afrika* 2, 7-126.
- Hilmarsson, Jörundur. 1989. *The Dual Forms of Nouns and Pronouns in Tocharian*. Reykjavík: Tocharian and Indo-European Studies, Supplementary Series 1.
- Hilmarsson, Jörundur. 1991. *The Nasal Prefixes in Tocharian*. Reykjavík: Tocharian and Indo-European Studies, Supplementary Series 3.
- Hommel, Fritz. 1894. Über den Grad der Verwandtschaft des Altägyptischen mit dem Semitischen. *Beiträge zur Assyriologie* 2, 342-358.
- HS = *Historische Sprachforschung*.
- Hudson, Grover. 1989. *Highland East Cushitic Dictionary*. Hamburg: Buske.
- Johnstone, T.M. 1987. *Mehri lexicon and English-Mehri word list*. London: School of African and Oriental Studies.
- IF = *Indogermanische Forschungen*.
- JIES = *Journal of Indo-European Studies*.
- Köderitsch, Rolf. 1985. Brygisch, Pänisch, Makedonisch. *Balkansko ezikoznanie* 28, 17-41.
- Kogan, Leonid E. & Korotayev, Andrey V. 1998. Sayhadic (Epigraphic South Arabian). In: SL, 220-241.
- Kopečný, František. 1973. *Etymologický slovník slovanských jazyků. Slova gramatická a zájmena, Svazek 1: Předložky. Koncové partikule*. Praha: Academia.
- Krahe, Hans. 1955. *Die Sprache der Illyrier, I: Die Quellen*. Wiesbaden: Harrassowitz.

- Krebernik, Manfred. 1992. Mesopotamian Myths at Ebla. In: *literature and literary Language at Ebla*, ed. by Pelio Fronzaroli. Firenze: Dipartimento di Linguistica, 41-149.
- Kretov, Aleksej A. 1994. Baltijskije i slavjanskije prodoženija i.-e. \*orǵh-. Stat'ja I: lit. išarža i prasl. \*kьnorzъ. *Linguistica Baltica* 3, 197-206.
- KZ = *Zeitschrift für vergleichende Sprachforschung*.
- Lacau, M. Pierre. 1970. *Les noms des parties du corps en égyptien et en sémitique*. Paris: Klincksieck.
- Lamberti, Marcello. 1993. *Die Shinassha-Sprache*. Heidelberg: Winter.
- Lanfry, J. 1973. *Ghadamès, II: Glossaire*. Fort-National: Fichier.
- Laoust, E. 1932. *Siwa*. Paris: Leroux.
- Lehmann, Winfred P. 1986. *A Gothic Etymological Dictionary*. Leiden: Brill.
- Lejeune, Michel. 1974. *Manuel de la langue vénète*. Heidelberg: Winter.
- Leslau, Wolf. 1938. *Lexique soqotri*. Paris: Klincksieck.
- Leslau, Wolf. 1987. *Comparative Dictionary of Ge'ez (Classical Ethiopic)*. Wiesbaden: Harrassowitz.
- Limet, H. 1984. Le system prepositional dans les documents d'Ebla. In: *Studies on the Language of Ebla*, ed. by Pelio Fronzaroli. Firenze: Istituto di linguistica e di lingue orientali (*Quaderni di semitistica* 13), 59-70.
- Lukas, Johannes. 1937. *Zentralsudanische Studien*. Hamburg: Fridrichsen, de Gruyter & co.
- Luling, Virginia. 1987. *Somali-English Dictionary*. Wheaton: Dunwoody.
- Müller, Walter W. 1985. Beiträge aus dem Mehri zum etymologischen Teil des hebräischen Lexikons. In: *Mélanges Linguistiques offerts à Maxime Rodinson*, ed. by Christian Robin. Paris: Geuthner (*Comptes rendus du Groupe Linguistique d'études chamito-sémitiques*, suppl. 12), 267-278.
- M = Mann, Stuart E. 1984-87. *An Indo-European Comparative Dictionary*. Hamburg: Buske.
- Mann, Stuart E. 1963. *Armenian and Indo-European (historical phonology)*. London: Luzac.
- Meid, Wolfgang. 1993. *Die erste Botorrita-Inschrift*. Innsbruck: IBS 76.
- Meid, Wolfgang. 1996a. Zur Botorrita-Inschrift. In: *GAS*, 146-148.
- Meid, Wolfgang. 1996b. *Kleinere keltiberische Sprachdenkmäler*. Innsbruck: IBS - Vorträge und Kleinere Schriften 64.
- Neroznak, Vladimir P. 1978. *Paleobalkanskije jazyki*. Moskva: Nauka.
- Orel, Vladimir. 1998. *Albanian Etymological Dictionary*. Leiden - Boston - Köln: Brill.
- P = Pokorny, Julius. 1959. *Etymologisches Wörterbuch der indogermanischen Sprachen*. Bern - München: Francke.

- Paradisi, Umberto. 1960. Il Berbero di Augila. *Rivista degli Studi Orientali* 25, 157-177.
- Parker, E.M. & Hayward, R.J. 1985. *An Afar-English-French Dictionary (with Grammatical Notes in English)*. London: School of Oriental and African Studies.
- Pennacchietti, Fabrizio A. 1974. Appunti per una storia comparata dei sistemi preposizionali semitici. *AION* 34, 161-215.
- Penney, J.H.W. 1989. Preverbs and postpositions in Tocharian. *Transactions of the Philological Society* 87.1, 54-74.
- Peters, Martin. 1980. *Untersuchungen zur Vertretung der indogermanischen Laryngale im Griechischen*. Wien: Österreichische Akademie der Wissenschaften, Sitzungsberichte der philosoph.-hist. Klasse, Bd. 377.
- Pillinger, Steve & Galboran, Letiwa. 1999. *A Rendille Dictionary*. Köln: Köppe.
- Pinault, Georges-Jean. 1998. Tocharian Languages and Pre-Buddhist Culture. In: *The Bronze Age and Early Iron Age Peoples of Eastern Central Asia*, ed. Victor H. Mair. Washington D.C.: The Institute for the Study of Man & The University of Pennsylvania Museum Publications (*Journal of Indo-European Studies Monograph Series*, No. 26), 358 -371.
- Prasse, Karl-G. 1972. *Manuel de grammaire touaregue*, I-III: *Phonétique -Ecriture - Pronom*. Copenhagen: Université de Copenhagen.
- Puhvel, Jaan. 1984-91-97. *Hittite Etymological Dictionary*, I-II (A, E-I), III (H), IV (K). Berlin - New York: Mouton de Gruyter.
- Reinisch, Leo. 1887. *Bilin-Sprache*, II: *Wörterbuch der Bilin Sprache*. Wien: Hölder.
- Reinisch, Leo. 1890. *Wörterbuch der Saho-Sprache*. Wien: Hölder.
- Reinisch, Leo. 1893-94. Die Beɖaɣye-Sprache in Nordost-Afrika, II-IV. *Sitzungsberichte der Akademie der Wissenschaften, phil.-hist. Classe* 128.7, 130.7, 131.3.
- Reinisch, Leo. 1902. *Die Somali-Sprache*, II: *Wörterbuch*. Wien: Hölder (Südarabische Expedition, Bd. II).
- Ricks, Stephen. 1989. *Lexicon of Inscriptional Qatabanian*. Roma: Editrice Pontificio Istituto Biblico.
- Roccati, Alessandro. 1975. Scambio delle preposizioni *n/r* in egiziano. *AION* 35, 245-247.
- Rössler, Otto. 1952. Der semitische Charakter der libyschen Sprache. *Zeitschrift für Assyriologie* 50, 121-150.
- Rössler, Otto. 1971. Das Ägyptische als semitische Sprache. In: *Christentum am Roten Meer*, I, eds. by F. Altheim & R. Stiehl. Berlin-New York: Walter de Gruyter, 263-325.
- Sasse, Hans-Jürgen. 1982. *Etymological Dictionary of Burji*. Hamburg: Buske.
- Schmidt, Karl H. 1996. Larzac. In: *GAS*, 23-36.

# Indo-European and Afroasiatic Prepositions

- Schrijver, Peter. 1995. *Studies in British Celtic Historical Phonology*. Amsterdam - Atlanta: Rodopi.
- SD *Sabaic Dictionary*, eds. by A.F.L. Beeston, M.A. Ghul, W.W. Müller, J. Ryckmans. Louvain-la-Neuve: Peeters / Beyrouth: Librairie du Liban 1982.
- Segert, Stanislav. 1984. *A Basic Grammar of the Ugaritic Language*. Berkeley - Los Angeles - London: University of California Press.
- Simeone-Senelle, Marie-Claude. 1998. The Modern South Arabian Languages. In: SL 378-423.
- Skinner, Neil. 1996. *Hausa Comparative Dictionary*. Köln: Köppe.
- SL *The Semitic Languages*, ed. by Robert Hetzron. London - New York: Routledge.
- Steingass, F. 1988. *A learner's Arabic-English Dictionary*. Jalandhar City: Gaurav.
- Stroemer, Harry. 1987. *A Comparative Study of Three Southern Oromo Dialects in Kenya*. Hamburg: Buske.
- Takács, Gábor. 1999. *Etymological Dictionary of Egyptian, I: A Phonological Introduction*. Leiden - Boston - Köln: Brill.
- Toporov, Vladimir N. 1975f. *Prusskij jazyk*, I-V. Moskva: Nauka.
- Tosco, Mauro. 1989. *A Grammatical Sketch of Dahalo*. Hamburg: Buske.
- Van Windekens, ALBERT J. 1976. *Le tokharien confronté avec les autres langues indo-européennes, I: La phonétique et le vocabulaire*. Louvain: Centre International de Dialectologie Générale.
- Vendryes, J. (et al.) 1959f. *Lexique étymologique de l'irlandais ancien*. Dublin: Institute for advanced studies / Paris: Centre national de la recherche scientifique.
- Voigt, Rainer. 1999. Die Präpositionen im Semitischen - Über Morphologisierungprozesse im Semitischen. In: *Tradition and Innovation. Norm and Deviation in Arabic and Semitic Linguistics*, eds. by Lutz Edzard & Mohammed Nekroumi. Wiesbaden: Harrassowitz, 22-43.
- Vycichl, Werner. 1983. *Dictionnaire étymologique de la langue copte*. Leuven: Peeters.
- de Vries, Jan. 1962. *Altnordisches etymologisches Wörterbuch*. Leiden: Brill.
- Wb. *Wörterbuch der ägyptischen Sprache*, ed. by Adolf Erman & Hermann Grapow. Berlin: Akademie-Verlag 1926[1971].
- Winter, Werner. 1988. Cardinal points and other directions in Tocharian A and B. in *Languages and Cultures. Studies in Honor of E.C. Polomé*, eds. M.J. Jazayery & W. Winter. Berlin / New York / Amsterdam: Mouton de Gruyter, 775-791.
- Woudhuizen, Fred C. 1993. Old Phrygian: Some texts and relations. *JIES* 21, 1-25.
- Zyhlarz, Ernst. 1933. Ursprung und Sprachcharakter des Altägyptischen. *Zeitschrift für Eingeborenen-Sprachen* 23, 25-45, 81-110, 161-194, 241-254.



# PRELIMINARY THOUGHTS ON NOSTRATIC MORPHOLOGY

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## 1. Introduction

One of the criticisms often leveled at the Nostratic Hypothesis is the relative dearth of morphological evidence presented by its proponents. Recently, this deficiency has begun to be filled. The late Joseph H. Greenberg has amassed a tremendous amount of morphological evidence in volume 1 of his recent book *Indo-European and Its Closest Relatives*. On the basis of the morphological evidence alone, I believe that Greenberg has successfully demonstrated that Eurasiatic is a valid linguistic taxon of and by itself. The morphological evidence that Greenberg has gathered for determining which languages may be related to Indo-European is the most complete to date and the most persuasive — it goes far beyond what Illič-Svityč was able to come up with, and it also surpasses what was presented in the chapter on morphology by John C. Kerns in our joint monograph *The Nostratic Macrofamily*.

I have tried to demonstrate elsewhere that Greenberg's Eurasiatic is a branch of Nostratic. If, as I have claimed, that is in fact the case, then there should be clear morphological parallels between Eurasiatic and the other branches of Nostratic, and indeed there are.

In my forthcoming book (*Reconstructing Proto-Nostratic: Comparative Phonology, Morphology, and Vocabulary*), I will present all of the morphological evidence I have gathered from the Nostratic daughter languages. In this paper, I will attempt a systematic reconstruction of Nostratic morphology based upon the evidence I have been gathering. But first, I will present a sketch of the Proto-Nostratic phonological system.

## 2. The Proto-Nostratic Phonological System

Proto-Nostratic had a rich system of stops and affricates. Each stop and affricate series was characterized by the three-way contrast (1) voiceless (aspirated), (2) voiced, and (3) glottalized. The aspiration of series (1) was phonemically non-distinctive.

The Proto-Nostratic phonological system may tentatively be reconstructed as follows:

Stops and Affricates:

p <sup>h</sup>	t <sup>h</sup>	c <sup>h</sup>	č <sup>h</sup>	t <sup>y</sup> h	tʃ <sup>h</sup>	k <sup>h</sup>	k <sup>wh</sup>	q <sup>h</sup>
b	d	ʒ	ʒ̣	d <sup>y</sup>	dʃ (?)	g	g <sup>w</sup>	g
p'	t'	c'	č'	t'.ɪ	tʃ'	k'	k' <sup>w</sup>	q'
q' <sup>w</sup>	?							

Fricatives:

	s	š	s <sup>y</sup>
h	ħ		
	z	ž (?)	z <sup>y</sup> (?)
ʕ			

Glides:

w	y
---	---

Nasals and Liquids:

m	n	n <sup>y</sup>	ŋ
	l	l <sup>y</sup>	
	r	r <sup>y</sup>	

Vowels:

i (~ e)	u (~ o)
e	o
(ə ~) a	

Also the sequences:

iy (~ ey)	uy (~ oy)	ey	oy	(əy ~) ay
iw (~ ew)	uw (~ ow)	ew	ow	(əw ~) aw

The following vowels may be reconstructed for Proto-Nostratic: *\*a*, *\*e*, *\*i*, *\*o*, and *\*u*. At least some of these vowels must have been subject to considerable subphonemic variation in the Nostratic parent language. The high front and back vowels *\*i* and *\*u*, in particular, may be assumed to have had lowered variants (indicated in the Proto-Nostratic reconstructions as *\*e* and *\*o* respectively), while the central low vowel *\*a* may be assumed to have had higher variants (indicated in the Proto-Nostratic reconstructions as *\*ə*). To complicate matters, *\*e* and *\*o* must also have existed as independent vocalic elements. It was the reanalysis, phonemicization, and exploitation of this subphonemic variation that gave rise to the ablaut and vowel harmony patterning found in the majority of the Nostratic daughter languages. It may be noted here that, according to Greenberg (1990), traces of an earlier system of vowel harmony can be discerned in Proto-Indo-European.

It is unclear whether phonemic long vowels existed in Proto-Nostratic as well, though the evidence seems to indicate that they did not.

Finally, it may be noted that, while any vowel (*\*a*, *\*e*, *\*i*, *\*o*, *\*u*) could appear in initial syllables, only *\*a*, *\*i*, *\*u* could appear in non-initial syllables.



### **3. Morphological Structure of Proto-Nostratic**

According to Dolgopolsky (1994:2838):

The parent language had, most probably, an analytic grammatical structure with a strict word order (sentence-final predicate; object preceding the verb; nonpronominal attribute preceding the head; a special position for unstressed pronouns) and with grammatical meanings expressed by word order and auxiliary words (e.g., postpositions: *\*nu* for genitive, *\*ma* for marked accusative, and others). In the descendant languages this analytic grammar evolved towards a synthetic one.

My own research tends to support Dolgopolsky's views. The evidence indicates that, in its earliest phases of development, the Nostratic proto-language had an analytic morphological structure, though, in its latest phases, a certain amount of evolution toward a synthetic structure must already have taken place, since a synthetic grammatical structure is reconstructed for Afrasian, which was the earliest branch to separate from the rest of the Nostratic speech community. That a good deal of this evolution took place within Proto-Afrasian proper is beyond doubt, inasmuch as a variety of analytic expressions can be found in other branches of Nostratic, some of which can be traced back to the Nostratic parent language.

The assumptions we make about the morphological and syntactical structure of a given proto-language profoundly affect the reconstructions that we propose. For example, in what follows, I will be proposing that Proto-Nostratic was an active language. Now, active languages exhibit specific characteristics (see below) that set them apart from other morphological types. Therefore, it follows that the reconstructions I posit will conform with an active structure. However, I believe quite emphatically that reconstructions must never be driven by theory alone. Rather, they must be fully consistent with the supporting data. Moreover, not only must our reconstructions be consistent with the supporting data, they must be consistent from a typological perspective as well, and they must be able to account for later developments in the descendant languages in as straightforward a manner as possible, without recourse to ad hoc rules. When reconstructions are driven by theory alone, the results can be disastrous. Here, I will mention first the Moscow School reconstruction of the Proto-Nostratic obstruent system as an example. On the basis of a few seemingly solid cognates in which glottalized stops in Proto-Afrasian and Proto-Kartvelian correspond to what are traditionally reconstructed as plain voiceless stops in Proto-Indo-European, Illič-Svityč assumes that voiceless stops in the Indo-European data he cites always means that glottalized stops are to be reconstructed in Proto-Nostratic, even when there were no corresponding glottalized stops in Afrasian and Kartvelian. He goes so far as to set up an ad hoc rule to account for counter-examples. Another example is Décsy's recent book (2002) on Afrasian. Here, Décsy makes certain ad hoc assumptions about what must have existed in language in general at a certain time depth and then applies those assumptions to his reconstruction of Proto-Afrasian. Though it is not known where or

when human language first appeared, the fossil record indicates that anatomically modern humans have been around for at least 160,000 years, according to current estimates. That is more than enough time for language to develop. To assume that complicated linguistic structures could not have existed a mere 12,000 years ago, less than 10% of the length of time that our species has been on this planet, is not a view that I can support. It should be noted here that this criticism does not apply to Décsy's books on Uralic (1990), Indo-European (1991), and Turkic (1998) in the same series.

Several scholars have recently presented persuasive arguments in favor of reconstructing an early phase of Proto-Indo-European as an active language (cf. especially Gamkrelidze—Ivanov 1995 and Lehmann 2002). Proto-Afrasian is also assumed to have been an active language (cf. Diakonoff 1988:85). In active languages, the subjects of both transitive and intransitive verbs are semantically agents and are treated identically for grammatical purposes, while non-agent subjects and direct objects are treated differently (cf. Trask 1993:5). Trask (1993:6) also notes that:

The correlation is rarely perfect; usually there are a few verbs or predicates which appear to be exceptional. In some active languages lexical verbs are rigidly divided into those taking agent subjects and those taking non-agent subjects; in others some lexical verbs can take either to denote, for example, differing degrees of control over the action.

In his recent book, Lehmann (2002:59—60) provides a particularly clear description of the salient morphological characteristics of active languages:

The inflections of active/animate nouns and verbs differ characteristically from those of the stative/animate counterparts in active languages. Active nouns have more inflected forms than do statives. Moreover, there are fewer inflected forms in the plural than in the singular...

Similarly, stative verbs have fewer inflections than do the active...

As another characteristic verbal inflections express aspect, not tense, in active languages...

Stative verbs are often comparable in meaning to adjectives...

Active languages are also characteristic in distinguishing between inalienable and alienable reference in personal pronouns...

Moreover, possessive and reflexive pronouns are often absent in active languages...

#### **4. Ablaut in Proto-Nostratic**

An analysis of the Afrasian (and, to a lesser extent, Dravidian) data seems to indicate that there was an alternation between the vowels *\*a*, *\*i*, and *\*u* in Proto-

Nostratic roots and that that alternation had some sort of morphological or semantic significance. This is most clear in the Proto-Afrasian reconstructions proposed by Orël—Stolbova (1995), where different root vowels are sometimes posited by them for two (or more) stems, all of which are clearly variants of the same root. Each stem is handled as a separate entry, though the stem is usually cross-referenced to the related entry or entries. It should be mentioned that the same patterning is evident in Ehret's (1995) reconstructions as well. At the present state of research, however, it is simply not possible to ascertain the details of that patterning and what that patterning may have signified.

### **5. Root Structure Patterning in Proto-Nostratic**

Comparison of the various Nostratic daughter languages makes it possible to determine the rules governing the structural patterning of roots and stems in Proto-Nostratic. Most likely, the patterning was as follows:

1. There were no initial vowels in Proto-Nostratic. Therefore, every root began with a consonant.
2. Originally, there were no initial consonant clusters either. Consequently, every root began with one and only one consonant. Medial clusters were permitted, however.
3. Two basic root types existed: (A) *\*CV* and (B) *\*CVC*, where *C* = any non-syllabic, and *V* = any vowel. Permissible root forms coincided exactly with these two syllable types.
4. A stem could either be identical with a root or it could consist of a root plus a single derivational morpheme added as a suffix to the root: *\*CVC+CV-*. Any consonant could serve as a suffix.
5. A stem could thus assume any one of the following shapes: (A) *\*CV-*, (B) *\*CVC-*, (C) *\*CVC+CV-*, or (D) *\*CVC-CVC-*. As in Proto-Altaic, the undifferentiated stems were real forms in themselves and could be used without additional suffixes or grammatical endings. However, when so used, a vowel had to be added to the stem (unless the stem already ended in a vowel), thus: (A) *\*CV-* > *\*CV* (no change), (B) *\*CVC-* > *\*CVC+V*, (C) *\*CVC-CV-* > (no change), or (D) *\*CVC-CVC-* > *\*CVC-CVC+V*. Following Afrasian terminology, this vowel may be called a "terminal vowel" (TV). Not only did terminal vowels exist in Proto-Afrasian (cf. Ehret 1995:15; Bender 2000:214—215), they were also found in Dravidian, where they are called "enunciative vowels" (cf. Steever 1998:15 and Zvelebil 1990:8—9 for comments on the Dravidian patterning). However, in Proto-Dravidian, the enunciative vowel was only added to obstruents, which could not occur in final position without a non-morphemic vowel.

Concerning enunciative vowels in Dravidian, Zvelebil (1990:8—9) notes:

No obstruents can occur finally. When they do, they are followed by a "non-morphemic" automatic (so-called epenthetic, or 'enunciative' or

‘euphonic’, i.e. predictable morphophonemic) vowel \*-ə which is regularly dropped according to morphophonemic rules...

While Krishnamurti (2003:90—91) observes:

If the stem ends in a stop, it is followed by a non-morphemic or enunciative vowel /u/. Roots of (C)VC- and (C)VCC- contrast when followed by formatives or derivative suffixes beginning with vowels. It is not clear if the difference between root-final C and CC is determined by the nature of the derivative suffix that follows. When roots in final obstruents are free forms, the final consonant is geminated followed by a non-morphemic (enunciative) *u*. When roots of the type (C)ùC- or (C)VCC- are followed by a formative vowel, Vø = /i u a/, they merge with (C)VC-.

Ehret (1995:15) makes the following observations about the terminal vowels in Proto-Afrasian:

The Omotic, Cushitic, and Chadic evidence conjoin in requiring the existence in PAA of an additional element in word formation, a terminal vowel (TV) in nouns and modifiers, the original function and meaning of which remain obscure. TVs have been subjected to comparative-historical investigation in only two groups of Afroasiatic languages. In Omotic they have no reconstructible function beyond their necessary attachment to singular noun stems in semantically predictable fashion. With the exception of Kafa, in which two TVs, *-o* and *-e*, have been grammaticalized respectively as masculine and feminine markers, they carry no grammatical or recognizable semantic load (Hayward 1987). In proto-Southern Cushitic, pairs of TVs formed a variety of singular-plural markers. Particular paired sets tended to go with either masculine or feminine nouns, but an individual TV on a singular noun generally gave no indication of the grammatical gender of that noun (Ehret 1980:49—50).

From these indicators it seems reasonable to conclude that TVs are fossils of a nominal morphology productive in pre-*proto-Afroasiatic* and predating the rise of grammatical gender in the family. Having lost their original grammatical function, they have been reanalyzed as markers of the singular or sometimes, as in the case of Southern Cushitic, of the plural in nominals. In the Boreafasian subgroup (Semitic, Egyptian, and Berber: see Chapter 6 for this classification), the TVs have generally been dropped entirely, leaving most nouns and adjectives as consonant-final words.

The existence of TVs at early stages of Afroasiatic evolution obviates the need to reconstruct any syllabic consonants for PAA. The

*Preliminary Thoughts on Nostratic Morphology*

usual word structure of nouns and adjectives would have been  $*C\pm(VC\emptyset)(C_s)V_{iv}$ , in which the only possible structures are CVC and CV and never just C. The presence of syllabic C in Boreafasian languages can be understood as the natural outcome of vowel loss, whether word-internal or word-final, within that particular subgroup (as is also separately the case in a few modern Omotic languages, notably Bench and Maji, where the same kind of sound change has independently been at work).

While Bender (2000:214—215) makes the following comments about Omotic:

Hayward (1987, 1980a, 1980b) reported in some detail on the matter of “terminal vowels” (TVs) found in sg. nouns in Omoto languages and Ari. Hayward states that the TVs in Ari are often independent of the root (1990b:440) and that in Zaysé, they are appendages, not part of the root, but being unpredictable, must be included in lexical entries (1990a:242). In some cases, final vowels distinguish gender. This is much more the case with pronominals, but I restrict the term “TVs” to the nominal category in non-derived and non-inflected form (except insofar as TV may mark gender)...

In the 1990c article, variation of vowels beyond the “cardinal” *i, e, a, o, u* did not seem to be significant in TVs. TVs are prominent in all branches except Gimira, where CVC is the norm, with tone carrying a high functional load. It would be tidy if TVs were reconstructable: they would thus be predictable across languages if not within languages according to lexical items. But first of all, there is no unanimity among the sources: different investigations record different TVs and even one source may have alternative forms.

As noted above, terminal vowels are only used with nouns and modifiers in Afrasian, while in Dravidian, the single reconstructible terminal vowel,  $*-u$ , is used after any free-form stem ending in an obstruent. For Proto-Nostratic, the patterning may be assumed to have been as follows: If an undifferentiated stem (nominal or verbal) was used as a free-form, a terminal vowel had to be added. In Proto-Nostratic, the terminal vowels were:  $*a$ ,  $*i$ , and  $*u$ . The origin of terminal vowels will be explained below.

The original root structure patterning was maintained longer in Proto-Dravidian and Proto-Altaic than in the other branches, while the patterning found Proto-Indo-European, Proto-Kartvelian, and Proto-Afrasian is based upon slightly later developments. The root structure constraints found in Proto-Indo-European were an innovation. In Proto-Uralic, the rule requiring that all words end in a vowel was an innovation and arose from the incorporation of the so-called “terminal vowel” into the stem. It should be mentioned here that reduplication was a widespread phenomenon.

On the basis of the evidence of Proto-Indo-European, Proto-Kartvelian, Proto-Afrasian, Proto-Dravidian, and Proto-Altaic, it may be assumed that there were three fundamental stem types: (A) verbal stems, (B) nominal and adjectival stems, and (C) pronominal and indeclinable stems. Both verbal stems and nominal stems could be built from the same root — that is to say that, while verbal stems and nominal stems were grammatically distinct, they could be identical phonologically. In Proto-Nostratic, only pronominal and indeclinable stems could end in a vowel. Verbal and nominal stems, on the other hand, had to end in a consonant, though, as noted above, when the undifferentiated stems were used as real words in themselves, a non-morphemic “terminal vowel” had to be added to the stem. Vowels could also serve as grammatical markers.

As in Kartvelian, I believe that Afrasian underwent several syntactic shifts in its prehistoric development. Surely, the VSO pattern found in Semitic, Egyptian, and Berber is an innovation. While it is not possible to trace the exact developments, I believe that the original pattern was SOV, which is what is found in the majority of Cushitic languages. Ehret (1995:52) arrives at the same conclusion for Proto-Afrasian. He notes that nominalizing morphology in Proto-Afrasian was predominantly suffixal. One little aside: The more I look at the matter, the more I am convinced that, within Afrasian, Semitic is the odd man out. In view of this, notions of what Proto-Afrasian might have been like, based primarily upon the Semitic model, are likely to be false.

## **6. Prehistory of Root Structure Patterning and the Development of Terminal Vowels**

During the earliest period of Proto-Nostratic, roots could only have the forms: (a) *\*CV-* and (b) *\*CVC-*. Type (a) was restricted to pronominal stems and indeclinables, while type (b) characterized nominal and verbal stems. A single derivational formative could be placed after root type (b): *\*CVC + \*CV* (derivational formative). Grammatical relationships were indicated by placing particles either after the undifferentiated stem or after the stem plus a derivational formative: (a) *\*CVC + \*CV* (particle) or (b) *\*CVC + \*CV* (derivational formative) + *\*CV* (particle). In this scheme, a formative vowel had to be added between the stem and any following element, be it particle or derivational formative; thus, we get the following patterns: (a) *\*CVC + V + CV* and (b) *\*CVC + V + CV + CV*. Eventually, the vowel of the element after the stem plus formative vowel was lost, which led to the development of two alternating forms of the final element (formerly an independent particle): (a) *\*CVC + V + C* and (b) *\*CVC + V + C + CV*. This is essentially the stage represented in Dravidian, though Dravidian has added long vowels to the equation as well as stems beginning with a vowel (no doubt arising from the loss of initial laryngeals) (cf. Krishnamurti 2003:179—184 and 277—279). Next, the originally formative vowel was reinterpreted as part of the derivational formative in type (b): *\*CVC + VC + CV*. This is the stage represented by Afrasian (cf. Diakonoff 1988:85—110; Ehret 1995:15 and 27—34) and is the basis for the root structure patterning found in Proto-Kartvelian and Proto-Indo-European. From an Afrasian perspective, there is no such thing as “formative vowels” — they are only preserved in Dravidian and Elamite, though, in Elamite, their status is disputed (cf. Reiner 1969:78).

In Proto-Dravidian, the original meaning of the formative vowel was completely lost. According to Krishnamurti (2003:97), “[i]t apparently had an epenthetic role of splitting clusters without affecting the syllable weight ...” Note the following examples given by Krishnamurti (2003:181):

1. *\*tir-a-y-* (*\*-p-/ \*-mp-*, *\*-nt-*) ‘to roll (intr.)’; *\*tir-a-y-* (*\*-pp-/ \*-mpp-*, *\*-ntt-*) ‘to roll up (tr.)’, (n.) *\*tir-a-y* ‘wave, screen, curtain’; *\*tir-a-nku* ‘to be curled up (intr.)’, *\*tir-a-nkku* ‘to shrivel (tr.)’;
2. *\*tir-a-l-* (*\*-p-*, *\*-ṇt-*) ‘to become round (intr.)’, *\*tir-a-l-* (*\*-pp-*, *\*-ṇtt-*) ‘to make round (tr.)’;
3. *\*tir-i-* (*\*-p-*, *\*-nt-*) ‘to turn (intr.)’, *\*tir-i-* (*\*-pp-*, *\*-ntt-*) ‘to turn (tr.)’; *\*tir-u-ku* ‘to twist (intr.)’, *\*tir-u-kku* ‘to twist (tr.)’; *\*tir-u-mpu* ‘to twist, to turn (intr.)’, *\*tir-u-mppu* ‘to twist, to turn (tr.)’;
4. *\*tir-u-ntu* ‘to be corrected, to be repaired (intr.)’, *\*tir-u-nttu* ‘to correct, to rectify (tr.)’.

As stated by Krishnamurti (2003:181), “[t]he Proto-Dravidian root is obviously *\*tir-*, meaning ‘turn, roll, twist, change shape’ → ‘correct’, etc. The formatives occur in two layers. The first layer is V = i, a, u; and the second layer, either a sonorant (L) as in y, l; or a simple or geminated stop ± homorganic nasal: P as in *\*ku*; PP as in *\*kku*; NP as in *\*nku*, *\*ntu*, *\*mpu*; NPP as in *\*nkku*, *\*nttu*, *\*mppu*.”

In the closely-related Elamite, verbal stems consisted either of a root ending in a vowel or of a root extended by a thematic vowel if the root ended in a consonant: *kuk-i* ‘to protect’ (< *kuk-*) (cf. Khačikjan 1998:13). Khačikjan (1998:11) also notes:

Elamite was an agglutinative suffixal language. The suffixes joined either the root or the stem.

The root morpheme consisted mostly of two consonants and one or two vowels: *nap* ‘deity’, *ruh* ‘man’, *zana* ‘lady’, *kap* ‘treasure’, *kik* ‘sky’, etc.

The stem consisted of a root ending in a consonant, with thematic vowels -i, -u, -a, cf. *per-i-*, *mur-u-*, *tahh-a-* (< *tah-*). The thematic vowels -u and -a were only attested with verbal stems, whereas -i with nominal and nomino-verbal ones: *tir-i-* ‘to speak’, *kukk-i* ‘vault, roof’, *peti-* ‘enemy; to revolt’.

Reiner (1969:78) notes, likewise, that the Elamite verb base always ended in a vowel: CVCV, CVCCV, and, though more rarely than the first two types, CV. Reiner argues against treating the thematic vowel (“stem-vowel”) as a separate morpheme. Khačikjan, however, follows Paper in considering the thematic vowel to be a separate morpheme. Grillot-Susini (1987:32) simply states: “The structure of the verb is

analogous to that of the noun. It consists of a base (simple root or enlarged by *-i/u/a*) to which the inflections of the verbal conjugation, the participial formants, and/or the nominal person suffixes are attached.”

Now, it is curious that the formative vowel can take different shapes in Proto-Dravidian: *\*a*, *\*i*, or *\*u*. This seems to indicate that the different formative vowels must have had some sort of morphological significance at one point in time, the Dravidian situation notwithstanding. Not only must the formative vowels have had morphological significance, it is even probable that they had different significance depending upon whether a nominal or verbal stem was involved.

For verbal stems, the formative vowels may have been aspect markers, as Zaborski has tried to show for Omotic (cited in Bender 2000:217). Here, according to Zaborski, the patterning was as follows: *a* marks present (imperfective), *i ~ e* mark past (perfective), and *u ~ o* mark subordinate. Though formerly supportive of Zaborski’s views, Bender is now skeptical, pointing out that he finds the consonantal markers to be more significant. Indeed, for Omotic or even Afrasian, this is what we would expect. But Zaborski’s views are not so easily dismissed. What he may have uncovered is a more archaic pattern, as Bender himself admits. In Finno-Ugrian, the ending *\*-i-* shows up as a past tense marker (cf. Décsy 1990:76; Collinder 1960:305—307 and 1965:132—134; Abondolo 1998:27). Likewise in Dravidian, where the suffix *\*-i-* is one of several used to mark past tense (cf. Krishnamurti 2003:296—298). These may ultimately be derived from the perfective marker *\*-i-*.

For nominal stems, the situation is a bit more complicated. Diakonoff (1988:59—61) reconstructs two “abstract” case forms for Proto-Afrasian: (a) *\*-i/\*-u* and (b) *\*-Ø/\*-a*. Diakonoff notes that the best preserved case marker was *\*-i*. It served two functions: (a) nominative-ergative and (b) genitive (in the sense ‘belonging to’). In Cushitic, it often has two variants: (a) a short one in *-i* and (b) an “expanded” one in *-iya* or *-ii*. Given the identical form of the nominative-ergative and genitive, Diakonoff assumes that the nominative-ergative function arose from the genitive function. For *\*-Ø/\*-a*, Diakonoff assumes that it represented “the noun outside of grammatical links (the so-called ‘*status indeterminatus*’) or the noun-predicate (the so-called ‘*status praedicativus*’), but also the subject of a state or condition, including the subject of the state that resulted from the action.” On the basis of what Diakonoff reconstructs for Proto-Afrasian, I assume that the following patterning existed in early Proto-Nostratic: *\*-i* (*~ \*-u* ?) was used to mark the subject in active constructions, while *\*-a* (*~ \*-Ø*) was used to mark the so-called “*status indeterminatus*”, the direct object in active constructions, or the “subject” in stative constructions.

In later Proto-Nostratic, this patterning became disrupted, though, as we have seen, it survived into Proto-Afrasian. In later Proto-Nostratic, the relational markers *\*-ma* and *\*-na* came to be used to mark the direct object in active constructions or the “subject” in stative constructions. Eventually, these relational markers became the primary means of marking the direct object in active constructions or the “subject” in stative constructions, with the result that the older patterning became disrupted. Thus, in the latest stage of the Nostratic parent language, we find the following patterning:



1. *\*-i*: used to mark the subject in active constructions;
2. *\*-a+-mal-na*: used to mark the direct object in active constructions or the “subject” in stative constructions.

*\*-a+-mal-na* was the first case form (bound relational marker) to develop in Proto-Nostratic. The second was the genitive in *\*-nu*. Indeed, these are the only two bound relational markers that can be confidently reconstructed for the latest period of Proto-Nostratic (see below for more details). Finally, it seems likely that unextended *-a* remained as the indicator of the *status indeterminatus*.

In Elamite, the *\*-a* (and *\*-u* ?) variant was eliminated in nominals. Dravidian, on the other hand, underwent further developments. Here, *\*-i* ~ *\*-a* were reinterpreted as oblique markers (on which, cf. Krishnamurti 2003:225—226), while *\*-u* assumed the role of enunciative vowel (cf. Krishnamurti 2003:91: “[w]hen roots in final obstruents are free forms, the consonant is geminated followed by a non-morphemic [enunciative] *u*.”).

This, then, explains the origin of both the so-called “formative vowels” and “terminal vowels”. It may be noted here that Ehret (1995:15) concludes that the terminal vowels found in Afroasiatic “are fossils of a nominal morphology productive in pre-proto-Afroasiatic and predating the rise of grammatical gender in the family. Having lost their original grammatical function, they have been reanalyzed as markers of singular or sometimes, as in the case of Southern Cushitic, of the plural in nominals.” Ehret did not recognize the intimate relationship between “formative vowels” and “terminal vowels” — indeed, he did not even reconstruct formative vowels for Proto-Afrasian. In this, he is correct. One final note: ultimately, *\*-a* is the source of the highly productive thematic stems in Indo-European.

## 7. Rules of Proto-Nostratic Syntax

Dolgopolsky (1984:92—93) sets up the following rules of Proto-Nostratic syntax:

- A. Words are classified into three groups (which differ in their syntactic behaviour):
  - a) Full Words (in the sense of the Chinese traditional grammar, i.e. semantic counterparts of nouns, adjectives, adverbs and verbs of modern languages),
  - b) Pronouns,
  - c) Grammatical Words (i.e. case-markers).
- B. Pronouns (if stressed) can behave syntactically according to the rules of Full Words as well.
- C. The predicate is the last Full Word of the sentence.
- D. Any object precedes its verb (i.e. its Full Word with verbal meaning).
- E. Any attribute (expressed by a Full Word) precedes its *regens*.

- F. A pronoun (personal or demonstrative) functioning as attribute follows its *regens*. In this case a personal pronoun has possessive meaning.
- G. A pronoun functioning as subject follows its predicate.
- H. Case-markers follow the corresponding Full Word. Some of these (genitive-marker *\*nu*, accusative-marker *\*ma*) follow immediately after its Full Word, while others (such as locative postpositions) can be used in a construction Full Word + *\*nu* + postposition. This accounts for *\*-n-* preceding the case-ending in the oblique cases of the IE heteroclita, for the increment *\*-in/-n-* preceding the case endings of the oblique cases in D[ravidian], for some F[inno-U]grian case forms (locative *\*-na < \*nu Ha*), as well as for the *\*-n*-increment in the personal pronominal stems in the oblique cases (→ all cases) in U[ralic], T[urkic], T[ungusian], and D[ravidian]...

A logical corollary of rules C—E is that the subject (if it is a Full Word) occupied the remaining place: somewhere in the initial part of the sentence.

These rules have been preserved almost entirely (either as syntactic rules of word-order or as morpheme-order in grammatical forms) in Uralic, Turkic, Mongolian, Tungusian, Gilyak, Korean, Japanese, Dravidian, Early Indo-European, Cushitic, and have determined the order of morphemes within words in the rest of the Nostratic languages.

Proto-Nostratic syntax was head-final, or left-branching, that is, dependents preceded their heads according to the so-called “rectum-regens rule”. In other words, adverbs preceded verbs, adjectives preceded nouns, and auxiliaries followed the main verb. The unmarked syntactical order was Subject + Object + Verb (SOV).

## 8. Pronominal, Deictic, and Anaphoric Stems

### 8.1. First Person Stems

- First person singular (active): *\*mi* (bound form *\*-m*)
- First person plural (inclusive, active): *\*ma* (bound form *\*-m*)
- First person (stative): *\*k<sup>h</sup>a* (bound form *\*-k<sup>h</sup>*)
- First person (stative): *\*Ha* (bound form *\*-H*)
- First person singular: *\*na* (bound form *\*-n*)
- First person plural (exclusive, active): *\*na*
- First person (postnominal possessive/preverbal agentive): *\*ŋya*

### 8.2. Second Person Stems

- Second person (active): *\*t<sup>h</sup>i* (~ *\*t<sup>h</sup>a*) (bound form *\*-t<sup>h</sup>*)

## *Preliminary Thoughts on Nostratic Morphology*

Second person: *\*si* (bound form *\*-s*)

Second person: *\*ni* (bound form *\*-n*)

### **8.3. Demonstrative, Anaphoric, and Deictic Stems**

Pronominal base of unclear deictic function: *\*-gi/\*-ge*

Demonstrative: (A) *\*ʔa-/\*ʔə-* (distant), (B) *\*ʔi-/\*ʔe-* (proximate), and (C) *\*ʔu-/\*ʔo-* (intermediate)

Demonstrative: (A) *\*k<sup>h</sup>a-/\*k<sup>h</sup>ə-* (proximate), (B) *\*k<sup>h</sup>u-/\*k<sup>h</sup>o-* (distant), and (C) *\*k<sup>h</sup>i-/\*k<sup>h</sup>e-* (intermediate)

Demonstrative: (A) *\*t<sup>h</sup>a-/\*t<sup>h</sup>ə-* (proximate), (B) *\*t<sup>h</sup>u-/\*t<sup>h</sup>o-* (distant), and (C) *\*t<sup>h</sup>i-/\*t<sup>h</sup>e-* (intermediate)

Demonstrative stem: *\*ša-/\*šə-*

Anaphoric pronoun stem: *\*si-/\*se-*

Anaphoric pronoun stem: *\*na-, \*ni-*

### **8.4. Interrogative, Relative, and Indefinite Stems**

Relative: *\*k<sup>wh</sup>i-/\*k<sup>wh</sup>e-*; interrogative: *\*k<sup>wh</sup>a-/\*k<sup>wh</sup>ə-*

Interrogative-relative stem: *\*ʔay-, \*ʔya-*

Interrogative: *\*mi-*; relative: *\*ma-*

Interrogative-relative: *\*na*

Indefinite: *\*ma-, \*mi-, \*mu-*

Indefinite: *\*d<sup>i</sup>i-/\*d<sup>i</sup>e-* 'this one, that one'

## **9. Nominal Morphology**

### **9.1. Introduction**

The overall structure of nominals (nouns and adjectives) was as follows:

Root + formative vowel (+ derivational suffix)  
(+ relational marker) (+ number marker)

A stem could consist of the unextended root or the root extended by a single derivational suffix (preceded, as indicated above, by a formative vowel). As has already been noted, it is necessary to recognize two distinct periods of development in Proto-Nostratic. In the earliest phase of development, the relational markers listed below were free relational morphemes (postpositional particles). In later Proto-Nostratic, however, at least two of them were well on their way to becoming bound relational morphemes (case suffixes).

As just noted, only the following two bound relational markers (case suffixes) can be confidently reconstructed for the latest period of Proto-Nostratic: (a) direct object (accusative) *\*-ma* (~ *\*-m*), *\*-na* (~ *\*-n*) and (b) genitive *\*-nu* (~ *\*-n*). Other case relationships were expressed by postpositions (see below for a list), some of which developed into bound case morphemes in the individual daughter languages. This is confirmed by Dravidian, where only the accusative (*\*-ay*, *\*-Vn*), dative (*\*-kk-/\*-k-*), and

genitive (\*-a, \*-in) can be clearly reconstructed for the Dravidian parent language (cf. Krishnamurti 2003:227). Other case forms developed within Dravidian proper (for discussion, cf. Krishnamurti 2003:227—243). Likewise, only the following two grammatical cases can be reconstructed for Proto-Uralic (cf. Abondolo 1998:18; Raun 1988:558—559): (a) accusative \*-m, which probably was used to mark the definite direct object of finite verbs, and (b) a subordinate suffix \*-n, which functioned as a genitive/nominalizer with nouns and as an adverb formant with verbs. Abondolo (1998:18) further points out that there were also at least three local cases in Proto-Uralic: (a) locative \*-nA, (b) separative \*-tA ~ \*-tI, and (c) and perhaps the latives \*-k (and/or \*-ŋ) and \*-tʲ (traditional \*-č) (and/or \*-nʲ [traditional \*-ŋ]). Sinor (1988:714—725) devotes considerable attention to the question of common case markers between Uralic and Altaic. He, too, posits a Proto-Uralic accusative in \*-m and a genitive in \*-n. For the former, he notes that nothing comparable can be posited for Proto-Turkic or Proto-Mongolian, but he does reconstruct a Proto-Tungus accusative \*-m, which is in agreement with what is found in Uralic. The clearest parallels for the latter are to be found in the Proto-Mongolian genitive \*-n (cf. Poppe 1955:187—194) and in the Proto-Turkic genitive \*-n (cf. Róna-Tas 1998:73). Poppe (1955:187—194) mentions that the genitive and accusative have converged in some Mongolian languages. This seems to indicate that Proto-Mongolian may have preserved the \*-n variant accusative form as opposed to the \*-m variant found in Uralic and Tungus. Sinor (1988:715—725) also discusses the Uralic and Altaic parallels between various local cases. Finally, it is worth mentioning here that, within Afrasian, Zaborski (1990:628) tentatively reconstructs the following case morphemes for Proto-Omotc: (a) nominative \*-i, (b) genitive-instrumental-directional \*-kV, (c) dative \*-s, (d) dative-comitative \*-rV, (e) accusative \*-a and \*-nV, (f) instrumental-locative-directional-dative \*-nV, and (g) ablative \*-pV. Zaborski (1990:618) notes that some of these case forms may go back to earlier postpositions. Parallels with Cushitic show that at least some of these case forms go back to Proto-Afrasian. Diakonoff (1988:61) notes that the following cases can be established for Proto-Afrasian with reasonable certainty: (a) \*-Vš, \*-šV locative-terminative; (b) \*-dV, \*-Vd comitative, dative; (c) \*-kV ablative and comparative; (d) \*-Vm locative-adverbialis; (e) \*-l directive; and (f) \*-p (also \*-f) ablative (in Omotic); conjunction, demonstrative pronoun in other languages. The ultimate Nostratic origin of several of the case forms posited by Zaborski for Proto-Omotc and by Diakonoff for Proto-Afrasian is completely transparent.

In Proto-Nostratic, adjectives were not a separate grammatical category. They were differentiated from nouns mainly by syntactical means — adjectives preceded the nouns they modified. Moreover, they did not agree with the head noun in number or gender. Caldwell (1913:308—318) describes similar patterning for Dravidian: "...adjectives have neither number, gender, nor case, but are mere nouns of relation or quality, which are prefixed without alternation to substantive nouns". Krishnamurti (2003:389) points out, however, that not all Dravidian adjectives are of the derived types described by Caldwell. Krishnamurti considers adjectives to form a separate part of speech in Dravidian, as does Zvelebil (1977:59—69 and 1990:27—28), though Zvelebil mentions the fact that primary, underived adjective stems are statistically very rare in the

## *Preliminary Thoughts on Nostratic Morphology*

Dravidian daughter languages. According to Steever (1998a:19): “The reconstruction of further parts of speech such as adjectives and adverbs to the proto-language is controversial. While some scholars have projected the category of adjectives to Proto-Dravidian, many of the candidates for adjectival status appear to be defective nouns or verbs. Although the scholarly literature speaks of certain forms as having adjectival function, viz., modifying a nominal, conclusive evidence that those forms constitute a formally distinct class is largely lacking. Further, none of the putative adjectives in Dravidian exhibits a comparative or superlative degree. These degrees are expressed instead by syntactic means...” As for Elamite, Khačikjan (1998:17) notes: “There was no special class of adjectives in Elamite. The mechanism of forming adjectives was the same as that used to express attributive relationships.” According to Diakonoff (1988:57), adjectives did not form a separate grammatical category in Proto-Afrasian. Likewise in Proto-Uralic (cf. Abondolo 1998:18): “Nouns were probably not morphologically distinct from adjectives in proto-Uralic, although the distribution of the comparative suffix *\*=mpV* suggests that an adjective category may have been developing before the breakup of Finno-Ugric”. In Proto-Indo-European, on the other hand, adjectives formed a distinct grammatical category, and they agreed with the head noun in number and gender (for details and examples, cf. Szemerényi 1996:192—201 and Beekes 1995:196—200). Adjectives also form a separate part of speech in the Kartvelian languages. In Turkic, adjectives are not usually clearly distinguished from nouns morphologically. However, several suffixes are used primarily to form adjectives. In Modern Mongolian, there is no difference between adjectives and nouns. A noun placed before another noun functions as an attribute to the latter (cf. Grønbech—Krueger 1993:18). In Gilyak / Nivkh, adjectives do not exist as a distinct word-class, the semantic function of adjectives being performed by qualitative verbs (cf. Gruzdeva 1998:16).

### **9.2. Relational Markers**

- Direct object (accusative): *\*-ma*
- Direct object (accusative): *\*-na*
- Genitive: *\*-nu*
- Possessive: *\*-lv*
- Dative: *\*-na*
- Directive: *\*-k<sup>h</sup>a*
- Directive(-locative): *\*-ri*
- Locative: *\*-ni*
- Locative: *\*-ma*
- Locative: *\*-bi*
- Locative: *\*-i*
- Comitative-locative: *\*-da*
- Oblique: *\*-t<sup>h</sup>a*

### **9.3. Dual and Plural Markers**

- Dual: *\*k<sup>h</sup>i(-n)*
- Plural: *\*-t<sup>h</sup>a*

Plural: *\*-ri*  
Plural: *\*-k<sup>h</sup>u*  
Plural (Eurasatic only): *\*-sV*  
Plural/collective: *\*-la*  
Plural: *\*-nV*

Note: plurality could also be expressed by reduplication of the root.

#### **9.4. Derivational Suffixes**

Nominalizer: *\*-ri/\*-re* (~ *\*-r-*)  
Nominalizer: *\*-ma* (~ *\*-m-*)  
Nominalizer: *\*-ya* (~ *\*-y-*)  
Nominalizer: *\*-t<sup>h</sup>a* (~ *\*-t<sup>h</sup>-*)  
Nominalizer: *\*-na* (~ *\*-n-*)  
Nominalizer: *\*-la* (~ *\*-l-*)  
Nominalizer: *\*-k<sup>h</sup>a* (~ *\*-k<sup>h</sup>-*)  
Nominalizer: *\*-k'a* (~ *\*-k'-*)

### **10. Verbal Morphology**

#### **10.1. Introduction**

In Proto-Nostratic, verbs fell into two types of construction: (1) active and (2) stative. In active constructions, which usually involved transitive verbs, the grammatical subject of the verb represented the agent performing the action, and the direct object represented the patient, or recipient, of the action (cf. Trask 1993:5). Stative constructions, on the other hand, expressed a state of affairs, rather than an event (cf. Trask 1993:259). Verbs expressed aspectual contrasts rather than temporal contrasts. Tense relates the time of the situation referred to to some other time, usually to the moment of speaking (cf. Comrie 1976:1—2), while aspect marks the duration or type of temporal activity denoted by the verb (cf. Crystal 1992:29; Comrie 1976:3). Proto-Nostratic had two aspects: (a) perfective (past) and (b) imperfective (non-past). Here, we may note that Diakonoff (1988:85) posits two aspects for the earliest form of Proto-Afrasian: (a) punctive (instantaneous) and (b) durative (protracted, or continuous). He assumes that these later developed into perfective and imperfective aspects and then, eventually, in the individual Afrasian daughter languages, into past and present-future tenses. He does not posit tenses for the Afrasian parent language. Proto-Nostratic also had, at the very least, the following moods: (a) indicative; (b) imperative; (c) conditional; (d) hortatory-precative; (e) inchoative; and (f) prohibitive. There was also a causative construction.

The overall structure of verbs was as follows:

Root + formative vowel (+ derivational suffix)  
(+ mood marker) (+ person marker) (+ number marker)

## *Preliminary Thoughts on Nostratic Morphology*

A stem could consist of the unextended root or the root extended by a single derivational suffix (preceded, as indicated above, by a formative vowel). The position of the number marker seems to have been flexible — it could also be placed before the person marker. Gender was not marked. There were no prefixes in Proto-Nostratic. We may note here that Krishnamurti (2003:279 and 312) posits the following structure for verbs in Proto-Dravidian:

Stem + tense-mood + (gender-)number-person marker

Stative verbs were indifferent to number and, therefore, had no plural forms. They also had a special set of person markers different from those of active verbs:

	Active person markers		Stative person markers
	Singular	Plural	
1p.	<i>*mi</i>	<i>*ma</i> (inclusive) (+ plural marker)	<i>*k<sup>h</sup>a</i>
	<i>*na</i>	<i>*na</i> (exclusive) (+ plural marker)	<i>*Ha</i>
2p.	<i>*t<sup>h</sup>i</i>	<i>*t<sup>h</sup>i</i> (+ plural marker)	<i>*t<sup>h</sup>i</i>
	<i>*si</i>		
	<i>*ni</i>		
3p.	<i>*ša-/*šə-</i>	<i>*ša-/*šə-</i> (+ plural marker)	<i>*Ø</i>
	<i>*na-, *ni-</i>	<i>*na-, *ni-</i> (+ plural marker)	

Morphologically, verbs could be either finite or non-finite. Finite forms could be marked for aspect, mood, person, and number, but not for gender or tense. Non-finite forms exhibited nominal inflection. In unmarked word order, the verb occupied the end position of a clause.

### 10.2. Non-finite Verb Forms (Derivational Suffixes)

The following non-finite verb forms are widespread enough in the Nostratic daughter languages to guarantee their common origin, and, consequently, they are listed separately here. However, at the Proto-Nostratic level, they were indistinguishable from the nominalizing suffixes listed above.

Participle: *\*-na*

Participle: *\*-t<sup>h</sup>a*

Gerundive-participle: *\*-la*

### 10.3. Finite Verb Forms: Mood Markers

Imperative: *\*-k<sup>h</sup>a, \*-k<sup>h</sup>i, \*-k<sup>h</sup>u* (~ *\*-k<sup>h</sup>-*)

Conditional: *\*-ba* (~ *\*-b-*)

Hortatory-precative: *\*-li* (~ *\*-l-*)

Inchoative: *\*-na* (~ *\*-n-*)

Note: the bare stem could also serve as imperative.

#### **10.4. Finite Verb Forms: Others**

Causative: \*-sV (~ \*-s-)

#### **11. Prohibitive/Negative Particles and Indeclinables**

The following negative/prohibitive particles and indeclinables can be reconstructed for Proto-Nostratic:

Negative particles: \*na, \*ni, \*nu

Prohibitive particle: \*ma(ʔ)

Negative particle: \*ʔal-/ \*ʔal-

Post-positional intensifying and conjoining particle: \*k<sup>wh</sup>a-/ \*k<sup>wh</sup>ə-

Particle: \*k<sup>wh</sup>ay- 'when, as, though, also'

Particle: \*har- 'then, therefore, with, and'

Particle: \*ʔin-/ \*ʔen-, \*(-)ni 'in, into, towards, besides, moreover'

Sentence particle: \*wa/\*wə 'and, also, but; like, as'

Coordinating conjunction: \*ʔaw-, \*ʔwa-/ \*ʔwə- 'or'

Particle: \*r<sup>h</sup>a- 'that over there, that yonder (not very far)'

#### **12. Concluding Remarks**

In this paper, I have presented preliminary thoughts on the reconstruction of Proto-Nostratic morphology. It gives me great pleasure to note that the picture that is emerging as a result of my studies, though neither complete nor definitive, has much in common with what V. M. Illič-Svityč arrived at (see the paper by Vladimir A. Dybo in this collection).



## Preliminary Thoughts on Nostratic Morphology

### References

- Abondolo, Daniel. 1998. "Introduction", in: Daniel Abondolo (ed.), *The Uralic Languages*. London and New York, NY: Routledge, pp. 1—42.
- Abondolo, Daniel (ed.). 1998 *The Uralic Languages*. London and New York, NY: Routledge.
- Beekes, Robert S. P. 1995. *Comparative Indo-European Linguistics: An Introduction*. Amsterdam and Philadelphia, PA: John Benjamins.
- Bender, M. Lionel. 2000. *Comparative Morphology of the Omotic Languages*. (= *LINCOM Studies in African Linguistics* 19.) München: Lincom Europa.
- Benveniste, Émile. 1935 *Origines de la formation des noms en indo-européen* [*Origins of the Formation of Nouns in Indo-European*]. Paris: Adrien-Maisonneuve.
- 1948. *Noms d'agent et noms d'action en indo-européen* [*Agent Nouns and Action Nouns in Indo-European*]. Paris: Adrien-Maisonneuve.
- Bomhard, Allan R. and John C. Kerns. 1994. *The Nostratic Macrofamily: A Study in Distant Linguistic Relationship*. Berlin, New York, NY, and Amsterdam: Mouton de Gruyter.
- Brugmann, Karl. 1888—1895. *Elements of the Comparative Grammar of the Indo-Germanic Languages*. English translation by Joseph Wright, R. Seymour Conway, and W. H. D. Rouse. 5 vols. New York, NY: B. Westermann and Co.
- 1904. *Kurze vergleichende Grammatik der indogermanischen Sprachen. Auf Grund des fünfbandigen "Grundriß der vergleichenden Grammatik der indogermanischen Sprachen von K. Brugmann und B. Delbrück"* [*Concise Comparative Grammar of the Indo-European Languages. Based upon the Five Volume "Elements of the Comparative Grammar of the Indo-European Languages by K. Brugmann and B. Delbrück"*]. Berlin: Walter de Gruyter. Reprinted 1970.
- Brugmann, Karl and Berthold Delbrück. 1897—1916. *Grundriß der vergleichenden Grammatik der indogermanischen Sprachen* [*Elements of the Comparative Grammar of the Indo-European Languages*]. 2nd edition. Berlin: Walter de Gruyter. Reprinted 1967.
- Burrow, Thomas. 1973. *The Sanskrit Language*. 3rd edition. London: Faber & Faber.
- Caldwell, Robert. 1913. *A Comparative Grammar of the Dravidian or South Indian Family of Languages*. 3rd edition revised and edited by J. L. Wyatt and T. Ramakrishna Pillai. Reprinted 1974. New Delhi: Oriental Reprint Corporation.
- Collinder, Björn. 1934. *Indo-uralisches Sprachgut: Die Urverwandtschaft zwischen der indoeuropäischen und der uralischen (finnisch-ugrisch-samojedischen) Sprachfamilie* [*Common Indo-Uralic Linguistic Possessions: The Primitive Relationship between the Indo-European and Uralic (Finno-Ugrian-Samoyed)*]

- Language Families*]. (= *Uppsala Universitets Årsskrift 1934, Filosofi, Språkvetenskap och Historiska Vetenskaper 1.*) Uppsala: A.-B. Lundequistiska Bokhandeln, pp. 1—116.
- 1960. *A Comparative Grammar of the Uralic Languages*. Uppsala: Almqvist and Wiksells.
- 1965. *An Introduction to the Uralic Languages*. Berkeley and Los Angeles, CA: University of California Press.
- Comrie, Bernard. 1976. *Aspect*. Reprinted 1978. Cambridge: Cambridge University Press.
- Crystal, David. 1992. *An Encyclopedic Dictionary of Language and Languages*. Oxford: Blackwell.
- Décsy, Gyula. 1965. Einführung in die finnisch-ugrische Sprachwissenschaft [Introduction to Finno-Ugrian Linguistics]. Wiesbaden: Otto Harrassowitz.
- 1990. *The Uralic Protolanguage: A Comprehensive Reconstruction*. Bloomington, IN: Eurolingua.
- 1991. *The Indo-European Protolanguage: A Computational Reconstruction*. Bloomington, IN: Eurolingua.
- 1998. *The Turkic Protolanguage: A Computational Reconstruction*. Bloomington, IN: Eurolingua.
2002. *The Afroasiatic Protolanguage. An Attempt at a Combined Phylogenetic and Historical-Comparative Reconstruction with Anthropological Objectives*. Bloomington, IN: Eurolingua.
- Diakonoff, Igor M. 1965. *Semito-Hamitic Languages*. Moscow: Nauka.
- 1975. "On Root Structure in Proto-Semitic", in: James Bynon and Theodora Bynon (eds.), *Hamito-Semitic*. The Hague: Mouton, pp. 133—153.
- 1988. *Afrasian Languages*. Moscow: Nauka.
- Dolgopolsky, Aaron. 198. "On Personal Pronouns in the Nostratic Languages", in: Otto Gschwantler, Károly Rédei, and Hermann Reichert (eds.), *Linguistica et Philologica. Gedenkschrift für Björn Collinder (1894—1983) [Linguistics and Philology. Memorial Volume for Björn Collinder (1894—1983)]*. Vienna: Wilhelm Braumüller, pp. 65—112.
- 1994. "Nostratic", in: R. E. Asher (ed.), *The Encyclopedia of Language and Linguistics*. Oxford: Pergamon Press, vol. 5, p. 2838.
- 1998. *The Nostratic Hypothesis and Linguistic Paleontology*. Cambridge: The McDonald Institute for Archaeological Research.
- Ehret, Christopher. 1995. *Reconstructing Proto-Afroasiatic (Proto-Afrasian): Vowels, Tone, Consonants, and Vocabulary*. Berkeley and Los Angeles, CA: University of California Press.

*Preliminary Thoughts on Nostratic Morphology*

- Fährnich, Heinz. 1993. *Kurze Grammatik der georgischen Sprache [Short Grammar of the Georgian Language]*. Third Edition. Leipzig, Berlin, München: Langenscheidt.
- 1994. *Grammatik der altgeorgischen Sprache [Grammar of the Old Georgian Language]*. Hamburg: Helmut Buske Verlag.
- Fährnich, Heinz and Surab Sardshweladse. 1995. *Etymologisches Wörterbuch der Kartwel-Sprachen [Etymological Dictionary of the Kartvelian Languages]*. Leiden: E. J. Brill.
- Gamkrelidze, Thomas V. and Vjačeslav V. Ivanov. 1995. *Indo-European and the Indo-Europeans: A Reconstruction and Historical Typological Analysis of a Protolanguage and a Proto-Culture*. 2 vols. English translation by Johanna Nichols. Berlin, New York, NY, and Amsterdam: Mouton de Gruyter.
- Gamkrelidze, Thomas V. and Givi Mačavariani. 1982. *Sonantsystem und Ablaut in den Kartwelsprachen. Eine Typologie der Struktur des Gemeinkartwelischen [The System of Resonants and Ablaut in the Kartvelian Languages. A Typology of the Structure of Common Kartvelian]*. German translation by Winfried Boeder. Tübingen: Gunter Narr Verlag.
- Greenberg, Joseph H. 1990. "The Prehistory of the Indo-European Vowel System in Comparative and Typological Perspective", in: Vitaly Shevoroshkin (ed.), *Proto-Languages and Proto-Cultures*. Bochum: Brockmeyer, pp. 77—136.
- 2000—2002. *Indo-European and Its Closest Relatives: The Eurasiatic Language Family*. 2 vols. Stanford, CA: Stanford University Press.
- Grillot-Susini, Françoise. 1987. *Éléments de grammaire élamite [Elements of Elamite Grammar]*. Paris: Éditions Recherche sur les Civilisations.
- Grønbech, Kaare and John R. Krueger. 1993. *An Introduction to Classical (Literary) Mongolian*. Third (corrected) edition. Wiesbaden: Otto Harrassowitz.
- Gruzdeva, Ekaterina. 1998. *Nivkh*. München: Lincom Europa.
- Hegedűs, Irén. 1992. "Reconstructing Nostratic Morphology: Derivational Elements", in: Vitaly Shevoroshkin (ed.), *Nostratic, Dene-Caucasian, Austric and Amerind*. Bochum: Brockmeyer, pp. 34—47.
- 1997. "On Grammaticalization in Nostratic", in: Irén Hegedűs, Peter A. Michalove, and Alexis Manaster Ramer (eds.), *Indo-European, Nostratic, and Beyond: Festschrift for Vitalij V. Shevoroshkin*. Washington, DC: Institute for the Study of Man, pp. 106—115.
- Hetzron, Robert (ed.). 1997. *The Semitic Languages*. London and New York, NY: Routledge.
- Illič-Svityč, V[ladislav] M[arkovič]. 1965. "Материалы к сравнительному словарю ностратических языков (индоевропейский, алтайский, уральский, дравидский, картвельский, семитохамитский)" [Materials for a Comparative Dictionary of the Nostratic Languages (Indo-European, Altaic, Uralic,

- Dravidian, Kartvelian, Hamito-Semitic)], *Этимология (Étimologija)* 1965:321—373.
- 1971— *Опыт сравнения ностратических языков (семитохамитский, картвельский, индоевропейский, уральский, дравидийский, алтайский)* [*An Attempt at a Comparison of the Nostratic Languages (Hamito-Semitic, Kartvelian, Indo-European, Uralic, Dravidian, Altaic)*]. 3 vols. Moscow: Nauka.
- Johanson, Lars and Éva Ágnes Csató (eds.). 1998. *The Turkic Languages*. London and New York, NY: Routledge.
- Khačikjan, Margaret. 1998. *The Elamite Language*. Rome: Consiglio Nazionale delle Ricerche, Istituto per gli Studi Micenei ed Egeo-anatolici.
- Klimov, G[еorgij] V. 1964. *Этимологический словарь картвельских языков* [*Etymological Dictionary of the Kartvelian Languages*]. Moscow: Nauka.
- 1969. *Die kaukasischen Sprachen* [*The Caucasian Languages*]. German translation by Winfried Boeder. Hamburg: Helmut Buske Verlag.
- 1977. *Типология языков активного строя* [*The Typology of Languages of Active Formation*]. Moscow: Nauka.
- 1994. *Древнейшие индоевропеизмы картвельских языков* [*Ancient Indo-European and Kartvelian Languages*]. Moscow: Publications of the Linguistic Institute of the Russian Academy of Sciences.
- 1998. *Etymological Dictionary of the Kartvelian Languages*. Berlin and New York, NY: Mouton de Gruyter.
- Krishnamurti, Bhadriraju. 2003. *The Dravidian Languages*. Cambridge: Cambridge University Press.
- Lehmann, Winfred P. 2002. *Pre-Indo-European*. (= *Journal of Indo-European Studies Monograph no. 41.*) Washington, DC: Institute for the Study of Man.
- Lipiński, Edward. 1997. *Semitic Languages: Outline of a Comparative Grammar*. Leuven: Peeters.
- Marcantonio, Angela. 2002. *The Uralic Language Family: Facts, Myths and Statistics*. Oxford and Boston, MA: The Philological Society.
- Meillet, Antoine. 1964. *Introduction à l'étude comparative des langues indo-européennes* [*Introduction to the Comparative Study of the Indo-European Languages*]. University, AL: University of Alabama Press. Reprint of 8th edition (1937).
- Menges, Karl H. 1968. *The Turkic Languages and Peoples*. Wiesbaden: Otto Harrassowitz.
- Michalove, Peter A. 2002. "The Nostratic 'Accusative' in \*-mA: An Altaic Perspective", *Anthropological Linguistics* 44/1:85—95.
- Orël, Vladimir E. and Olga V. Stolbova. 1995. *Hamito-Semitic Etymological Dictionary: Materials for a Reconstruction*. Leiden: E. J. Brill.

*Preliminary Thoughts on Nostratic Morphology*

- Pedersen, Holger. 1931. *The Discovery of Language: Linguistic Science in the Nineteenth Century*. English translation by John Webster Spargo. Midland book edition 1962. Bloomington, IN: Indiana University Press.
- Poppe, Nicholas [Nikolaus]. 1955. *Introduction to Mongolian Comparative Studies*. Reprinted 1987. Helsinki: Suomalais-Ugrilainen Seura.
- 1960. *Vergleichende Grammatik der altäischen Sprachen [Comparative Grammar of the Altaic Languages]*. Teil I: Vergleichende Lautlehre. Wiesbaden: Otto Harrassowitz.
- 1965. *Introduction to Altaic Linguistics*. Wiesbaden: Harrassowitz.
- Ramat, Anna Giacalone and Paolo Ramat (eds.). 1998. *The Indo-European Languages*. Translated from *Le Lingue Indoeuropee [The Indo-European Languages]* (1993). London and New York, NY: Routledge.
- Ramstedt, G[ustav] J[ohn]. 1952—1957. *Einführung in die altäische Sprachwissenschaft [Introduction to Altaic Linguistics]*. 2 vols. Helsinki: Suomalais-Ugrilainen Seura.
- Raun, Alo. 1988. "Proto-Uralic Comparative-Historical Morphosyntax", in: Denis Sinor (ed.), *The Uralic Languages*. Leiden: E. J. Brill, pp. 555—571.
- Reiner, Erica. 1969. "The Elamite Language", in: B. Spuler (ed.), *Altkeinasische Sprachen [Ancient Near Eastern Languages]*. Leiden: E. J. Brill, pp. 54—118.
- Renfrew, Colin and Daniel Nettle (eds.). 1999. *Nostratic: Examining a Linguistic Macrofamily*. Cambridge: McDonald Institute for Archaeological Research.
- Róna-Tas, A. 1991. *An Introduction to Turkology*. Szeged: Attila József University.
- 1998. "The Reconstruction of Proto-Turkic and the Genetic Question", in: Lars Johanson and Éva Ágnes Csató (eds.), *The Turkic Languages*. London and New York, NY: Routledge, pp. 67—80.
- Shevoroshkin, Vitaly (ed.). 1989a. *Explorations in Language Macrofamilies*. Bochum: Universitätsverlag Dr. Norbert Brockmeyer.
- 1989b. *Reconstructing Languages and Cultures*. Bochum: Universitätsverlag Dr. Norbert Brockmeyer.
- 1990. *Proto-Languages and Proto-Cultures*. Bochum: Universitätsverlag Dr. Norbert Brockmeyer.
- 1991. *Dene-Sino-Caucasian Languages*. Bochum: Universitätsverlag Dr. Norbert Brockmeyer.
- Shevoroshkin, Vitaly and Thomas L. Markey, Thomas L. (eds.). 1986. *Typology, Relationship, and Time*. Ann Arbor, MI: Karoma Publishers.
- Sinor, Denis. 1988. "The Problem of the Ural-Altaic Relationship", in: Denis Sinor (ed.), *The Uralic Languages: Description, History and Foreign Influences*. Leiden: E. J. Brill, pp. 706—741.
- 1990. *Essays in Comparative Altaic Linguistics*. Bloomington, IN: Research Institute for Inner Asian Studies.

- Sinor, Denis (ed.). 1988. *The Uralic Languages: Description, History and Foreign Influences*. (= *Handbuch des Orientalistik*, VIII, Abt., vol. I.) Leiden: E. J. Brill.
- Starostin, Sergej A. 1991. *Алтайская проблема и происхождение японского языка* [*The Altaic Problem and the Origin of the Japanese Language*]. Moscow: Nauka.
- Starostin, Sergej A., Anna Dybo, and Oleg A. Mudrak. 2003. *An Etymological Dictionary of Altaic Languages*. 3 vols. Leiden: E. J. Brill.
- Steever, Sanford B. 1998. "Introduction to the Dravidian Languages", in: Stanford B. Steever (ed.), *The Dravidian Languages*. London and New York, NY: Routledge, pp. 1—39.
- Steever, Sanford B. (ed.). 1998. *The Dravidian Languages*. London and New York, NY: Routledge.
- Szemerényi, Oswald. 1996. *Introduction to Indo-European Linguistics*. Translated from the 4th edition (1990) of *Einführung in die vergleichende Sprachwissenschaft* [*Introduction to Comparative Linguistics*], with additional notes and references. Oxford: Clarendon Press.
- Trask, R. L. 1993. *A Dictionary of Phonetics and Phonology*. London and New York, NY: Routledge.
- Watkins, Calvert. 1998. "Proto-Indo-European: Comparison and Reconstruction", in: Anna Giacalone Ramat and Paolo Ramat (eds.), *The Indo-European Languages*. London and New York, NY: Routledge, pp. 25—73.
- Zaborski, Andrzej. 1990. "Preliminary Remarks on Case Morphemes in Omotic", in: Richard J. Hayward (ed.), *Omotic Language Studies*. London: University of London, School of Oriental and African Studies, pp. 617—639.
- Zvelebil, Kamil V. 1970. *Comparative Dravidian Phonology*. The Hague: Mouton.
- 1977. *A Sketch of Comparative Dravidian Morphology*. Part I. The Hague: Mouton.
- 1990. *Dravidian Linguistics: An Introduction*. Pondicherry: Institute of Linguistics and Culture.

## RELATIONSHIPS BETWEEN INITIAL VELAR STOPS AND LARYNGEALS IN PIE<sup>1</sup>

Paul S. Cohen

### Introduction

For more than forty years there have been references in the Indo-European diachronic-linguistic literature to potential relationships between velar stops and laryngeals. Thus, for example, Martinet (1955:56) connects Lat. *costa* ‘rib’ with Gk. *ὀστέον* ‘bone’ and Lat. *senec-* with *senā-* ‘old’ by positing such a relationship, and Gamkrelidze & Ivanov (1984:131–132) give several examples, including Gk. *κάρνον* ‘nut, walnut’ : Gk. (Hesychius) *ἄρνα* ‘nuts, walnuts’ and OCS *koza* ‘goat’ : Skt. *ajāḥ* ‘billy goat’. More recently, Yakubovich (2000) lists several sets of this type (e.g., Arm. *kokord* ‘throat’ : Luw. *ḫuḫurt(i)* ‘id.’ [p. 140], and Gk. *κεφαλή* ‘head’ : Hitt. *ḫupallaš* ‘skull/scalp’ [pp. 140–141]), as do Cavoto (ms.) (e.g., Lat. *caper* ‘he-goat’, Gk. *κάπρος* ‘boar’ : Lat. *aper* ‘wild boar’) and Beekes (2003:15) (e.g., Gk. *καλινδέομαι* ‘[of a horse, e.g.] to lie rolling about or wallowing’ : Gk. *ἀλινδω* ‘[of a horse, e.g.] to cause to roll’); and Andersen (2003:64–66) discusses examples given in Gamkrelidze & Ivanov (*loc. cit.*).

The present paper will be limited to looking at these proposed relationships in initial position (hereinafter referred to as *\*K-/H-* cognate sets). It seeks, nevertheless, to accomplish two important goals:

- to assemble a large number of *\*K-/H-* cognate sets, thereby indicating that the relationships are in fact more than sporadic (or fortuitous);
- to propose exact correspondences for these *\*K-/H-* cognate sets, relating specific stops to specific laryngeals in specific phonological environments (thereby setting the stage for later investigations intended to ascertain whether we are dealing with Indo-European sound laws or other phenomena).

Additionally, in the course of the exposition, evidence will arise that supports the widely-held views that

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- the reflex of PIE *\*H<sub>2</sub>o-* is *o-*<sup>2</sup>;
- PIE *\*H<sub>3</sub>* was voiced and rounded and velar<sup>3</sup>.

In the next section, I list more than thirty *\*K-/H-* cognate sets, organized in groups according to the exact correspondences I propose at the beginning of each group. In each *\*K-/H-* cognate set, I give both a reflex or two of a root with a reconstructed velar stop + laryngeal and a reflex or two of its proposed cognate root without a reconstructed velar stop.

I have refrained from terming these exact correspondences *sound laws*, because it is unclear which of the following are reflected by the correspondences:

- an earlier stage of Proto-Indo-European in which there was a (now obscure) conditioned sound change;
- some similar stage in an ancestor of Proto-Indo-European<sup>4</sup>;
- free variation (perhaps involving consonant-cluster simplification);
- dialect mixture (i.e., borrowing between closely-related Indo-European varieties);
- borrowing from some unknown (presumably lost) Indo-European language or some unknown (presumably lost) language related to Indo-European;
- borrowing from some (presumably indigenous) non-Indo-European language or languages, with the phonological variation being caused by the naturalization of one or more non-Indo-European phonemes or by phonotactic constraints in the borrowing languages<sup>5</sup>;
- borrowing of Indo-European forms into a non-Indo-European language group (e.g., Uralic), followed by their being borrowed back into one or more Indo-European languages<sup>6</sup>;

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<sup>2</sup> It is worth noting, however, that there are respected researchers who believe it to be *a-*. For argumentation on both sides of the issue, cf., especially, Kortlandt (1980), Schrijver (1991:51), Sihler (1995:45–46), Weiss (1996: 671–672), and Lindeman (1997:45–46, 73–75)—as well as Cohen (2003, to appear) for a summary of the positions in these works.

<sup>3</sup> See Benveniste (1935:168) and, especially, Rasmussen (1994, 1999 [1983]:74 *et passim*). Beekes (1994) agrees with regard to voicing and rounding, but whereas Rasmussen believes *\*H<sub>3</sub>* to have been a velar fricative, Beekes opts for a pharyngeal fricative.

<sup>4</sup> Hyllested (2003 and 2004) gives strong evidence, in the form of proposed lists of *lautgesetzlich* cognates, for the relatedness of Uralic and Indo-European, including several items that show straightforward correspondences of Uralic *k* and Indo-European laryngeals (and in some phonological environments, velar stops).

<sup>5</sup> Cf., e.g., Vennemann (2002, 1998) and Beekes (2003), who ascribes (pp. 3–4) the material examined in his monograph (including the examples I have drawn therefrom in this article) to loans and substratum effects from one or more non-Indo-European Anatolian languages in Greece and Asia Minor.

<sup>6</sup> This possibility was suggested to me by Brent Vine (2003, p.c.). For some relevant borrowings from Indo-European, see, especially, Koivulehto (1999 [1988]:302–306 [i.e., the section entitled “Fi.-perm./frühurfi. *k-* als Substitut des idg. Laryngals im fiu. Anlaut”]).



- some combination of these.

I therefore talk about *cognates* or *correspondences* or *alternations*, thereby maintaining neutrality among these potential sources.

At the beginning of each group, I give cognate sets in which the correspondences go beyond the second consonant of the root, since it might otherwise appear to some that the groups are based solely—and thus somewhat flimsily—on an exact match of a single consonant (along with, in most cases, a matching laryngeal-colored vowel). These sets also have straightforward semantic correspondences. Later in the group, I list some potential root etymologies and some cognates exhibiting somewhat less solid semantic correspondences, as well as some seductive possibilities that exhibit certain unclear or apparently irregular phonological correspondences.

I have decided not to give exhaustive (or even lengthy) lists of items for each member of a proposed set, because that information is of course available to the interested reader in such handbooks as Pokorny (1959), Mallory & Adams (1997), Watkins (2000), and Rix (2001). I do, however, give references to the roots listed in one or more of these handbooks whenever I have materially departed from the traditional reconstructions, as well as argumentation supporting my position. In addition, for those *\*K-/H-* cognate sets that have previously been proposed or noted by others or myself, I give bibliographic references; those *\*K-/H-* cognate sets that to the best of my knowledge I have originated here, I annotate with my initials (P.S.C.).

For the sake of clarity and consistency of exposition, I have taken the liberty of using *H* (with numerical subscripts where appropriate) to represent laryngeals throughout the paper, regardless of how referenced works symbolized them. I have also modified fonts and unified symbols for semivowels, offglides, and the like in cited forms and quotations for the same reasons.

### Examples of *\*K-/H-* cognate sets

(Etyma given in parentheses are in lightface if they are essentially those of one or more of the standard handbooks or if they are based on the work originating the proposed cognates; they are in boldface if they are significant modifications of those in the standard handbooks or if they are my own inventions.)

#### A. *\*kH<sub>2</sub>e-* ~ *\*H<sub>2</sub>e-*

- 1) Lat. *caper* ‘he-goat’, Gk. *κάπρος* ‘boar’ (< *\*kH<sub>2</sub>eprō-*) ~ Lat. *aper* ‘wild boar’ (< *\*H<sub>2</sub>eprō-*). Based on Ernout & Meillet (1994 s.v. *aper*, *aprī*) and Cavoto (ms.). Sihler (1995:45) glosses the etymon for *caper* and *κάπρος* as ‘stud’, which I think fits well for the forms both with and without initial *k*.
- 2) Gk. *κάρον* ‘nut’ (< *\*kH<sub>2</sub>er-u-*) ~ Gk. (Hesychius) *ἄρνα* ‘nuts, walnuts’ (< *\*H<sub>2</sub>er-u-*). Taken from Gamkrelidze & Ivanov (1984:131) and Andersen (2003:65).
- 3) Skt. *kārṣ-* ‘to plow’ (< *\*kH<sub>2</sub>ers-*) ~ Hitt. *ḫarš-*, *ḫaršiya-* ‘to till (the soil)’ (< *\*H<sub>2</sub>ers-*). Taken directly from Yakubovich (2000:139). Also belonging here, I would posit, are the following representative examples with initial *\*k*: Lat.

*carrere* ‘to card (wool)’ (< \*(s)kH<sub>2</sub>ers- ‘to card, to scratch, to currycomb’) and Eng. *harrow* ‘farm implement for breaking up and evening plowed ground, setting seed, etc.’ (< ME *harwe*), Dutch *hark* ‘rake’ (< \*(s)kH<sub>2</sub>er-)—though the latter set merely exemplifies a root etymology (since it does not have the -s- extension) and the vowel quality may be secondarily derived. In this regard, it is worth noting that “tilling the soil” normally includes both plowing and harrowing, by definition. Most importantly, we see here formal and semantic relationships analogous to those adduced in item 7 of subsection B below. The relationship of these to the widespread root \*H<sub>2</sub>erH<sub>3</sub>- ‘to break up the soil, plow’ (> e.g., Lat. *arāre*, Gk. *ἀρόω*), under the view taken herein, would be another root etymology.

- 4) OCS *koza* ‘goat’ (< \*kH<sub>2</sub>eġo-) ~ Skt. *ajā-* ‘billy goat’ (< \*H<sub>2</sub>eġ-). Taken from Gamkrelidze & Ivanov (1984:131)
- 5) Lat. *capere* ‘to take, seize’ (< \*kH<sub>2</sub>ep-) ~ Lat. *apere* ‘to attach, join, tie to’ (< \*H<sub>2</sub>ep-). Taken from Cavoto (ms.).
- 6) Gk. *καλινδέομαι* ‘(of a horse, e.g.) to lie rolling about or wallowing’ (< \*kH<sub>2</sub>elind-) ~ Gk. *ἀλίνδω* ‘to cause (a horse, e.g.) to roll’ (< \*H<sub>2</sub>elind-). Taken from Beekes (2003:15).
- 7) Gk. *κανθήλιον* ‘pannier at the side of a packsaddle’ (< \*kH<sub>2</sub>end<sup>h</sup>-) ~ Gk. *ἀνθήλιον* ‘id.’ (< \*H<sub>2</sub>end<sup>h</sup>-). Taken from Beekes (2003:15).
- 8) Proto-Slavic \**kal-ēn-a-* ‘knee’ (< \*kH<sub>2</sub>(e)H<sub>3</sub>l-en-) ~ Gk. *ὠλένη*, Lat. *ulna* ‘elbow’ (< \*H<sub>2</sub>(e)H<sub>3</sub>l-en-). Taken from Gamkrelidze & Ivanov (1984:131) and Andersen (2003:65), and influenced by Schrijver (1991:78–79).
- 9) Gk. *κάν* ‘and if, even if, although’ (< \*kH<sub>2</sub>en) ~ Lat. *an* ‘whether, or; then (but expressing doubt)’ (< \*H<sub>2</sub>en). Traditionally, *κάν* is derived by crasis (i.e., vowel contraction across word boundaries) from *καί ἄν* ‘and if, even if’; I follow Schrijver (1991:43) here, however, who states “Gr. *ἄν* probably arose as a result of the historically incorrect analysis of *οὐ κάν*, cf. Arcadian *εἰ κάν*”, thus implying the priority of *κάν* over *ἄν*.
- 10) Eng. *heat* (< \*kH<sub>2</sub>ey-d- ‘heat’) ~ Lat. *aestās* ‘heat, summer’ (< \*H<sub>2</sub>ey-d<sup>h</sup>- ‘to burn’). (P.S.C.) A root etymology.
- 11) Fr. *canard* ‘(male) duck’, *cane* ‘female duck’ (< \*kH<sub>2</sub>en- ‘duck’) ~ Lat. *anas* ‘duck’ (< \*H<sub>2</sub>en-H<sub>2</sub>l- ‘duck’). (P.S.C.) Traditionally, *can-* ‘duck’ is derived from an onomatopoeic root, e.g., O.Fr. *caner* ‘to cackle’.
- 12) ON *haf* ‘sea’, Ger. *Haff* ‘lagoon’ (< \*kH<sub>2</sub>ep-) ~ Skt. *ap-* ‘water’ (< \*H<sub>2</sub>ep-). Suggested by Adam Hyllested (2003, p.c.). The Germanic forms are traditionally taken to be derivations from \**habjan-* ‘to raise’ (> e.g., Eng. *heave*), the semantics of which are less than compelling.
- 13) Lat. *cacūmen* ‘point, summit, treetop, top, zenith’ (< \*kH<sub>2</sub>ek-u-) ~ Lat. *acūmen* ‘(sharp) point, sharpness’ (< \*H<sub>2</sub>ek<sup>h</sup>-u-). (P.S.C.) This correspondence is intriguing but problematical. Pokorny (1959:588) writes that “die *men-* Weiterbildung [of *cacūmen*] wohl nach *acūmen*”, and most scholars, based on permissible Indo-European and Latin morphological

processes, would agree<sup>7</sup>. Also, the generally-accepted relationship between *cacūmen* and Skt. *kakūbh-* ‘hilltop, summit’ requires a PIE velar stop, whereas forms such as Latv. *ass* ‘keen, sharp, pointy’ (cognate with *acūmen*) require a PIE palatal stop; this mismatch cannot be reconciled straightforwardly.

- 14) Skt. *kapí-* ‘ape, monkey’ (*\*kH<sub>2</sub>epi-*) ~ ON *api* ‘id.’ (*\*H<sub>2</sub>ebi-*). Taken from Gamkrelidze & Ivanov (1984:131), Cavoto (ms.), and Andersen (2003:65). Of course, the mismatch in voicing between the stops is a concern—as would be, for some, the very positing of PIE *\*b*; in addition, apes and monkeys were found only in the periphery of the IE homeland. All of this indicates that the etyma of both items are loanwords from outside PIE. Referencing these etyma, Mallory & Adams (1997:384 s.v. *monkey*) state “There is no reconstructible word for ‘monkey’ or ‘ape’ in PIE although there are several borrowed forms that underlie words in various IE languages.... The Greek and Indic words are cognates by borrowing with other Near Eastern words for ‘ape’ such as Hebrew *qōph* and Egyptian *kephi*.... The Germanic words are generally taken to be borrowings from Celtic.... ...[T]he ultimate source of the Celtic word is not known, but surely it does not reflect anything PIE.”

#### B. *\*kH<sub>2</sub>e/o-* ~ *\*H<sub>2</sub>o-*

- 1) Lat. *costa* ‘rib’ (< *\*k(H<sub>2</sub>)ost-* ‘bone’) ~ Gk. *ὀστέον* ‘bone’ (< *\*H<sub>2</sub>ost-* ‘bone’). Taken from Martinet (1955:56). I am aware that some handbooks give a form beginning with *\*H<sub>3</sub>* for the etymon of *ὀστέον*<sup>8</sup>, but Watkins (2000:61) gives *\*H<sub>2</sub>ost-*, *H<sub>2</sub>est-* as the etymon for *\*ost-* and (*loc. cit.*), most convincingly, for Gk. *ἀσπράγαλος* ‘vertebra, ball of the ankle joint, knucklebone’. He states (p. 44) that *\*kost-* is “[p]robably related to [*\*ost-*]”. Mallory & Adams (1997:77 s.v. *bone* [in an article contributed by Adams]) give *\*H<sub>2</sub>óst* and, along with *ἀσπράγαλος*, cite *ὀστακός* ~ *ἀστακός* (< *\*H<sub>2</sub>e/osth<sub>2</sub>kó-*) ‘lobster’. The article states “Possibly connected are Lat *costa* ‘rib’ and OCS *kostĭ* ‘bone’ but the initial *\*k-* is not explained....”
- 2) Eng. *hear* (< *\* (H<sub>2</sub>)kous-* ‘hear’) ~ Eng. *ear* (< *\*H<sub>2</sub>ous-* ‘ear’). There is a great deal of disagreement among the handbooks regarding the etyma for these items, particularly in those forms where a *\*k* is evidenced. Watkins (2000:44) gives “[*\*kous-*] ... (Oldest form *\*H<sub>2</sub>kous-*)” as the source of *hear* and (p. 61) and “[*\*ous-*] ... (Oldest [form] *\*H<sub>2</sub>ous-* ...)” as the source for *ear*. Whether the initial vowel of Gk. *ἀκοῦω* ‘I hear’, etc., comes from an original *\*ē* prefix or from a metathesis<sup>9</sup> of some kind is unclear. It is quite

<sup>7</sup> Thus Perrot (1961:173–174) says “*Cacūmen* « cime » se relie à une forme à redoublement *\*kaku-* qui se presente élargie par *-d-* et *-bh-* en sanskrit, avec le sens de « sommet ». La finale du mot latin a pu être influencée par *acūmen*.”

<sup>8</sup> Sihler (1995:99), e.g., gives *\*H<sub>3</sub>estH<sub>1</sub>*, but I presume this to be based on his opting for *a-* to be the reflex of *\*H<sub>2</sub>o-*.

<sup>9</sup> One is immediately reminded of the widely-accepted relationship between, e.g., Lith. *akmuõ* ‘stone’, Gk. *ἀκμῶν* ‘anvil’ and OCS *kamy*, Ser.-Cr. *kamēn* ‘stone’, which is normally explained

- possible that items such as Eng. *show* and Lat. *cavēre* 'to beware' are related to this group: Pokorny (1959:587–588) gives the root *\*keu-*, *skeu-* as the source for *cavēre* and for the Germanic cognates and predecessors of *show* and of *hear*. Watkins (2000:79) gives *\*(s)keuH-* for *show* and *cavēre*, and Rix (2001:561) gives *\*(s)keuH<sub>1</sub>-* for these two (or their cognates).
- 3) Lat. *cancer* 'crab, creeping ulcer' (< *\*kH<sub>2</sub>enk-* 'tumor, ulcer') ~ Gk. *ὄγκος* 'mass, tumor' (< *\*H<sub>2</sub>onk-* 'tumor, ulcer'). (P.S.C.) Prior etymologies for these two are extremely varied and, to me, remarkably strained and *ad hoc*. Thus, e.g., Watkins (2000:37) gives a dissimilation of *\*kar-kr-o-*, a reduplication of *\*kar-* 'hard' for *cancer*; and (p. 57) gives the root *\*H<sub>1</sub>nek-* 'to bring', in a variant, o-grade version *onk-o-* for *ὄγκος*. The etymology posited herein is semantically and phonologically straightforward, given the *\*K-/H-* relationship.
  - 4) Skt. *kāksa* 'armpit', Av. *kaša* 'shoulder', Lat. *coxa* 'hip-bone' (< *\*kH<sub>2</sub>ok̄-sā* 'body part, joint') ~ Lat. *āla* (< *\*aks-lā*) 'wing, shoulder, armpit', *axilla* 'armpit' (< *\*H<sub>2</sub>ek̄-s-* 'id.'). (P.S.C.)
  - 5) Lat. *caput* 'head' (< *\*kH<sub>2</sub>ep-ut-* 'head') ~ Lat. *optumus*, *optimus* 'best' (< *\*H<sub>2</sub>op-* 'head'). Traditionally, of course, *optumus*, *optimus* is based on *\*op-* 'to work, produce in abundance'. Cohen (2003) comprises a detailed argument in favor of the relationship posited here, which is founded in part on an idea put forth by Sihler (1995:368) that involves antonymic pairs (in this case *optumus*, *optimus* vs. *pessimus*) of Latin superlatives.
  - 6) Ion. Gk. *κόρη* 'head, temple' (< *\*kH<sub>2</sub>ors-*) ~ Hitt. *ḫaršar/ḫaršan* 'head' (< *\*H<sub>2</sub>ors-*). Based on Yakubovich (2000:140).
  - 7) Eng. *hack* (< *\*kH<sub>2</sub>o/eg-*) ~ Gk. *ὄμος* 'furrow, line' Homeric Gk. 'swath' (< *\*H<sub>2</sub>oḡ-mo-s-*). As pointed out in Cohen (2003, to appear), "[O]ne cluster of meanings of *hack* is given in *Merriam Webster III* (1976:1018 s.v.) as '[T]o clear (a path or area) by cutting away vegetation ...[.] [T]o break up the surface of (land)[:] to break up the soil and sow (seed) at the same operation—used with *in* ...[:] to cut, trim, or uproot with a hack, hook, or sickle[.]' Cohen (*op. cit.*) also has a discussion of Eng. *hatchel*, *hackle*, *heckle* 'comb for dressing flax, hemp, etc.' (from the same root as *hack*), in which it is posited that "... the visual effect of combing/carding fibers with a hatchel is much like a miniature version of turning a tangled mass of vegetation into furrows". Cf. item 3 in subsection A above.
  - 8) Eng. *hazel* (< *\*kos-elo-*) ~ Eng. *ash* [tree] (< *\*h<sub>2</sub>os-k-*). (P.S.C.) A root etymology.

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as a metathesis in Slavic (cf., *i.a.*, Mallory & Adams [1997:547 s.v. *stone* (the entry for which was contributed by Robert S.P. Beekes)]); and one is led to wonder whether this relationship, rather than one of metathesis, might be another variation of the *\*K-/H-* phenomena under consideration herein.

C.  $*k^w$  -  $\sim$   $*(H)w$ -,  $w(H_2)$ ;  $*ku$ -  $\sim$   $*(H)u$ -

- 1) Skt. *kṛmi*- 'worm' ( $< *k^w\text{ṛmi-}$ )  $\sim$  Eng. *worm* ( $< *w\text{ṛmi-}$ ). Watkins (2000:46, 99) refers to each of these as a "rhyme word" to the other, but under the approach taken here, they are perfect cognates. Also worthy of note is Eng. *squirm*, which I take to be based on the *s*-mobile variant of the form with  $*k^w$ -. From the earliest citation of *squirm* (late 17<sup>th</sup> century) to the present, the word has denoted wriggling like a worm or eel.
- 2) ON *hverfa* 'to turn, rotate' ( $< *k^w\text{erp-H-}$ )  $\sim$  Lith. *verpiù* 'to spin' ( $< *w\text{erp-}$ ). (P.S.C.)
- 3) Eng. *wheel* ( $< *k^w\text{e-k}^w\text{l-o-}$  [reduplication of  $*k^w\text{el-}$  'to turn, spin']])  $\sim$  Lat. *volvere* 'to roll' ( $< *w\text{el-}$  'to turn, roll'). (P.S.C.) (The *o* of *volvere* is an instance of the Latin development of *e* to *o* between a labial and a dark *l*.)
- 4) Eng. *whelp* ( $< *k^w\text{elb-}$ )  $\sim$  Hitt. *ḫuelpi* 'newborn animal' ( $< *H_2\text{welb-}$ ). Based on Yakubovich (2000:141).
- 5) Gr. *κῦφος* 'hump, hunch', *κῦφός* 'bent forwards, stooping, hunchbacked', *κύβδα* (with *ῥ*) 'with the head forwards, stooping forwards', *κύβητος* (with *ῥ*) 'stooping with the head', *κυβιστάω* 'to tumble head foremost' ( $< *kub^{(h)}\text{-}$ )  $\sim$  Gr. *ῥβος* 'hump of a camel', *ῥβός* 'humpbacked', *ῥβόμαι* (with *ῥ*) 'to become humpbacked', *ῥβάζω* 'to stoop forward and vomit' ( $< *H_2ub\text{-}$ ). Suggested by Adam Hyllested (2004, p.c.). While there is remarkable semantic agreement between the sets of forms, we find variation in the length of the *v* in both sets and in the aspiration of the labial stop in the set beginning with  $*k$ . The vowel length in the set beginning with  $*k$  may not be original: Rix (2001:358 s.v. *\*keubh-* 'sich beugen, ducken') gives "Präsens *\*kubh-ḱé-* gr. *κύπτω* 'ducke mich, beuge mich vor'", and in a note (*loc. cit.*) writes "Vgl. gr. *κῦφός* 'gebückt' (*ῥ* wohl sekundär); ved. *kubhrá-* 'Buckelstier' ...". It is not clear whether the *ῥ* in *ῥβόμαι* is original or a later development: The earliest citations for *ῥβος* and *ῥβός* are from the 5<sup>th</sup> and 4<sup>th</sup> century B.C.E., respectively, whereas the earliest citation for *ῥβόμαι* (with *ῥ*) is from the 2<sup>nd</sup> century C.E.; on the other hand, the earliest citation for *ῥβάζω* is from the 10<sup>th</sup> century C.E. With respect to the aspiration of the labial stop in the set beginning with  $*k$ , Pokorny (1959:588 s.v. *keu-*, *keuā-*) has, e.g., "... *kubo-s*, *kubho-s* 'gehöhlt, gekrümmt' ...", and in the same entry (p. 590) has, at the head of the subentry for *keu-bh-*, "(einschließlich von Worten, die *bh* oder *b* enthalten können)".
- 6) Lith. *kvepiù* 'to breathe' ( $< *kw\text{ep-}$ )  $\sim$  Lat. *vapor* 'steam, vapor' ( $< *w(H_2)\text{ep-}$ ). (P.S.C.) The standard handbooks, e.g., Pokorny (1959), Watkins (2000), and Rix (2001), all include *vapor* in the list of reflexes of an etymon beginning with *k* (with much variation as to the exact form of the etymon), but they offer no rule-governed explanation for the lack of an initial stop in *vapor* or for the vowel of its root. The analysis given here accounts for both.
- 7) Eng. *howl* ( $< *k^w\text{u(wa)l-}$ )  $\sim$  Lat. *ulul-āre* 'to howl' ( $< *H_2ul\text{-}$  [with reduplication]). (P.S.C.) Of course both of these are normally listed as onomatopoetic, and they presumably are, in origin. But there is a point to be

made here: Once onomatopoetic items become part of the normal lexicon, they behave, phonologically (and morphologically and syntactically), just like non-onomatopoetic ones; in particular, they exhibit normal sound changes (e.g., *howl* has undergone the Great Vowel Shift). Thus, I would maintain that words such as these have to be treated carefully, but certainly should not be excluded from consideration.

D.  $*g^w$  - ~  $*H_3(w)$ -

- 1) OCS *gora* 'mountain' (<  $*g^w or$ -) ~ Gk. *ὄρος* 'mountain' (<  $*H_3e/or$ -). (P.S.C.)
  - 2) OHG *questa* 'bundle of leaves, broom, etc.' (<  $*g^w e/os-do$ - 'branches, foliage') ~ Gk. *ῥοός* 'bough, branch, twig' (<  $*H_3e/os-do$ - 'bough, branch'). (P.S.C.)
- The first etymon is based on the forms at the entry in Pokorny (1959:480). The second is based on the form proposed by Kortlandt (2001:2) and on one of the forms given by Sihler (1995:194, 216). Two points require discussion here. For one thing, there is a lack of consensus over the internal structure of Gk. *ῥοός*. Its etymon is often cited as  $*H_{3/2}o-sd-o-$  vel. *sim.* (cf., e.g., Pokorny [1959:887]), that is, making it a formation analogous to  $*ni-sd-o-$  'nest' (>, e.g., Lat. *nīdus*, Eng. *nest*) <  $*ni-$  'down' +  $*-sd-$  (zero-grade of  $*sed-$  'sit'), as well, quite possibly, as OE *mistel*, Ger. *Mistel* 'mistletoe' (see Balles [1999]); in this version,  $*H_{3/2}o-$  would be a "directive" prefix. If this is the correct analysis of *ῥοός* (and it is not, in fact, universally accepted<sup>10</sup>), I would maintain that a relationship of the sort I have posited to the etymon beginning with  $*g^w$  is still viable if the alternation postdates the compound formation. Next, there is a good deal of disagreement over whether the etymon of *ῥοός* begins with  $*o$  or  $*H_2$  or  $*H_3$ . Sihler (1995, *l.c.*) gives alternative forms beginning  $*H_3esdo-$  and  $*osdo-$  for the source of *ὄρος*, and Balles (1999:140) gives  $*o-zd-o-$ . However, the existence of Hitt. *ḫašduēr* 'twigs, branches, brush' (i.e., with initial *ḫ*) guarantees an initial  $*H_2$  or  $*H_3$  in the source form. Kortlandt (2001:2) opts for  $*H_3$ , noting for this item and two others that "[s]ince these are classic examples of non-apophonic *o-* in Indo-European ..., I reconstruct  $*H_3e-$  here." On the other hand, as cited in fn.10 of the present article, Mallory & Adams (1997 *l.c.*) give a form beginning with  $*H_2o$ , and Melchert (1989:124 fn. 17) renounces his earlier choice of  $*H_3e-$  in favor of  $*H_2o-$ , based primarily on Anatolian evidence outside of Hittite. I believe the choice of laryngeals is still an open question, and thus in keeping with the thesis of the present section, I am opting for  $*H_3$ .

<sup>10</sup> Thus, Mallory & Adams (1997:80 *s.v.* *branch* [the entry for which was contributed by Paul Friedrich and Douglas Q. Adams]) note " $*H_2\acute{o}sdos$  'branch' ... may have been derived from the zero grade of the root 'to sit' ( $*sed-$ ), i.e., 'place to perch on, to sit in, etc.'. But this idea, despite the prestige of its authors, is problematic ...". And Sihler (1995 *loc. cit.*) gives alternative forms  $H_3esdo-$  and  $osdo-$  for the source of *ῥοός* (in fact ordering the choices one way on p. 194, the other way on p. 216), with the lack of internal hyphens in these implying that he does not believe that the zero grade of  $*sed-$  is involved—in contrast to the etymon of *nīdus*, which, on p. 213, he gives explicitly as " $*ni-sd-o-$  ( $*sed-$  'sit' and  $*ni-$  'down')".

- 3) OE *cwellan* ‘to kill, destroy’ [> Eng. *quell*] (< \*g<sup>w</sup>elH- ‘to pierce; death’) ~ Gk. *ἀλλῶμι* [< \*ol-nō-mi] ‘I destroy’ (< \*H<sub>3</sub>elH<sub>1</sub>-). (P.S.C.)
- 4) Arm. *kokord* ‘throat’ (< \*g<sup>w</sup>orH<sub>3</sub>-d-) ~ Luw. *ḫuḫurt(i)* ‘id.’ (< \*H<sub>3</sub>orH<sub>3</sub>-d-). Both forms exhibit reduplication. Taken from Yakubovich (2000:140).
- 5) Lat. *vīv-* ‘live’ (< \*g<sup>w</sup>ieH<sub>3</sub>-) ~ Hitt. *ḫuiš*, *ḫuēš* ‘be alive’ (< \*H<sub>3</sub>wiH<sub>3</sub>-). Taken from Yakubovich (2000:146–147). (Cf. also the discussion of these items in Olsen [to appear].)
- 6) Skt. *Garuḍa*<sup>11</sup> ‘god that is half-man, half-eagle; “the king of eagles”<sup>12</sup>, (< \*g<sup>w</sup>or-) ~ Hitt. *ḫāras* ‘eagle’ (< \*H<sub>3</sub>or- ‘eagle’). (P.S.C.) (It should be noted that some authorities associate the Skt. root with Lat. *vol-* ‘to fly’; cf. Watkins [2000:33], who tentatively derives the Skt. and Lat. roots from a PIE root he posits as \*g<sup>w</sup>el- ‘to fly; a wing’.)
- 7) Eng. *quirk* (< \*g<sup>w</sup>ṛg-) ~ Hitt. *ḫurki-* ‘wheel’ (< \*H<sub>3</sub>wṛg-). A good deal of discussion is needed here. First of all, *quirk* has heretofore had no proposed etymology or cognates (cf. Liberman [1992:30]). The *OED* (1989 s.v.) has citations dating only to the mid-16<sup>th</sup> century, but notes that the word is “... app. native in western dialects”; significantly for our position, it goes on to say that “The original sense was as in [definition] 6 ...”, viz. “A sudden twist, turn, or curve....” Secondly, the underlying root for the second form is given in Rix (2001:290–291) as \*H<sub>2</sub>werg- ‘sich umdrehen, sich wenden’. The choice there of \*H<sub>2</sub>- is based, as noted on p. 291, on the analysis in Tichy (1983:286–288), which arises from the combined evidence of the initial ḫ in *ḫurki-* (requiring either an \*H<sub>2</sub>- or \*H<sub>3</sub>-), and the first vowel of Gk. *ἐέπω* ‘halte ab, verscheuche’, which is taken (p. 287 fn. 164) to be from an assimilation of \*awerg- > \*ewerg- (thus from \*H<sub>2</sub>- rather than \*H<sub>3</sub>-). This latter point seems dubious, since an assimilation of \*owerg- > \*ewerg- is conceivable, in which case \*H<sub>3</sub>- cannot be excluded. In any event, it is noteworthy that Mallory & Adams (1997:640 s.v. *wheel*) give \*H<sub>2</sub>ṛwṛgi- as the etymon for *ḫurki-* (and its Tocharian cognates).

## Concluding Remarks

I believe the present paper has accomplished the two main goals laid out in the Introduction above, namely to assemble a large number of \*K-/H- cognate sets (so as to convince the reader that these represent one or more real phenomena, as opposed to happenstance) and to propose exact correspondences for these \*K-/H- cognate sets, relating specific stops to specific laryngeals in specific phonological environments (so as to set the stage for later investigations to determine the underlying sources of the correspondences).

Moreover, the examples in §2B support the position that the reflex of PIE \*H<sub>2</sub>o- is o-. And those of §2D strongly indicate that, since it corresponds to \*g<sup>w</sup> (which is

<sup>11</sup> Cf. also Skt. *garut-* ‘wing’.

<sup>12</sup> I thank Adam Hyllested (2004, p.c.) for calling my attention to the specifics of this gloss.

voiced and rounded and velar), \*H<sub>3</sub> was voiced and rounded and velar; i.e., its likely phonetic realization, as propounded by Rasmussen (1994, 1999 [1983]), would be the voiced, rounded velar fricative [ɣ<sup>w</sup>]—as opposed, e.g., to Beekes (1994), who believes it to have been the voiced, rounded pharyngeal fricative [ʕ<sup>w</sup>].

## References

- Andersen, Henning (2003). "Slavic and the Indo-European Migrations". In *Language Contacts in Prehistory: Studies in Stratigraphy. Papers from the Workshop on Linguistic Stratigraphy and Prehistory at the Fifteenth International Conference on Historical Linguistics, Melbourne, 17 August 2001*, edited by Henning Andersen, pp. 45–76, John Benjamins: Amsterdam/Philadelphia.
- Balles, Irene (1999). "Zum germanische Namen der Mistel". *Historische Sprachforschung* 112:137–142.
- Beekes, R.S.P. (1994). "Who were the Laryngeals?". In *In Honorem Holger Pedersen: Kolloquium der Indogermanische Gesellschaft vom 25. bis 28. März 1993 in Kopenhagen*, edited by Jens Elmegård Rasmussen, pp. 449–454. Wiesbaden: Dr. Ludwig Reichert Verlag.
- (2003). *Pre-Greek: A Language Reconstructed*.  
<http://iiasnt.leidenuniv.nl/ied/pdf/pre-greek.pdf> (second version, November 2003).
- Benveniste, Émile (1935). *Origines de la formation des noms en indo-européen*, Paris: Librairie Adrien-Maisonneuve.
- Cavoto, Fabrice (ms.). *H/k Alternations in Indo-European: A New Analysis*.
- Cohen, Paul S. (2003). "On the Etymology of Latin *optumus/optimus* and the Reflex of PIE \*H<sub>2</sub>o-". Paper presented August 14, 2003 at the 16<sup>th</sup> International Conference on Historical Linguistics, Copenhagen. (To appear in the proceedings of the session on Internal Reconstruction in Indo-European: Methods, Results, and Problems [edited by Jens Elmegård Rasmussen], as a volume of the series *Copenhagen Studies in Indo-European*, Copenhagen: Museum Tusculanum.)
- Ernout, A. and A. Meillet (1994). *Dictionnaire Etymologique de la Langue Latine: Histoire des Mots*, Paris: Éditions Klincksieck.
- Gamkrelidze, T.V. and V.V. Ivanov (1984). *Indoevropskij jazyk i indoevropcejcy: Rekonstrukcija i istoriko-tipologičeskij analiz prajazyka i protokul'tury*, 1–2. Tbilisi: Izdatel'stvo tbilisskogo universiteta.
- Hyllested, Adam (2003). "Internal Reconstruction and External Comparison: The Case of Indo-Uralic". Paper presented August 12, 2003 at the 16<sup>th</sup> International Conference on Historical Linguistics, Copenhagen. (To appear in the proceedings of the session on Internal Reconstruction in Indo-European: Methods, Results, and Problems [edited by Jens Elmegård Rasmussen], as a



*Initial Velar Stops and Laryngeals in PIE*

- volume of the series *Copenhagen Studies in Indo-European*, Copenhagen: Museum Tusculanum.)
- (2004ms). "The Reflexes of Nostratic Laryngeals in Uralic: An Alternative View".
- Koivulehto, Jorma (1999 [1988]). "Idg. Laryngale und die finnisch-ugrische Evidenz". In *Verba mutuata: Quae vestigia antiquissimi cum Germanis aliisque Indo-Europaeis contactus in linguis Fennicis reliquerunt*, by Jorma Koivulehto (edited by Klaas Ph. Ruppel), pp. 295–306. Helsinki: Finnische-Ugrische Gesellschaft. (The paper is reprinted from *Die Laryngalthorie und die Rekonstruktion des indogermanischen Laut- und Formensystems*, [edited by Alfred Bammesberger], pp. 281–297, Heidelberg: Carl Winters Verlag, 1988.)
- Kortlandt, Frederik (1980). "H<sub>2</sub>O and oH<sub>2</sub>". *Lingua Posnaniensis* 23:127–128.
- Kortlandt, Frederik (2001). *Initial Laryngeals in Anatolian*.  
[www.kortlandt.nl/publications/art202e.pdf](http://www.kortlandt.nl/publications/art202e.pdf) (Web publication date:2003).
- Lieberman, Anatoly (1992). "Etymological Studies IV: The 'Dregs' of English Etymology". *General Linguistics* 32.1:16–35.
- Lindeman, Fredrik Otto. (1997). *Introduction to the 'Laryngeal Theory'* (revised and augmented edition of the 1987 version). Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- Mallory, J.P. and D.Q. Adams (eds.) (1997). *Encyclopedia of Indo-European Culture*, Chicago & London: Fitzroy Dearborn.
- Martinet, André (1955). "Le couple *senex-senatus* et le « suffixe » -k-". *Bulletin de la Société de Linguistique de Paris* 51:42–56.
- Melchert, H. Craig (1989). "Luvian Lexical Notes". *Historische Sprachforschung* 101:211–243.
- Merriam Webster III (1976). *Webster's Third New International Dictionary of the English Language Unabridged*, Springfield (Mass.): G. & C. Merriam.
- OED (1989). *The Oxford English Dictionary*, 2nd ed., Oxford: Clarendon Press.
- Olsen, Birgit Anette (to appear). "Hittite š from \*h<sub>3</sub>?". In *A Festschrift for Folke Josephson*, Gothenburg: Meijerbergs Arkiv.
- Perrot, Jean (1961). *Les Dérivées latins en -men et -mentum*. Paris: Librairie C. Klincksieck.
- Pokorny, Julius (1959 [1994]). *Indogermanisches Etymologisches Wörterbuch*. 2 vols. Tübingen & Basel: Francke Verlag.
- Rasmussen, Jens Elmegård (1994). "On the Phonetics of the Indo-European Laryngeals". In *In Honorem Holger Pedersen: Kolloquium der Indogermanische Gesellschaft vom 25. bis 28. März 1993 in Kopenhagen*, edited by Jens Elmegård Rasmussen, pp. 432–447. Wiesbaden: Dr. Ludwig Reichert Verlag.
- (1999 [1983]). "Determining Proto-Phonetics by Circumstantial Evidence: The Case of the Indo-European Laryngeals". In *Selected Papers on Indo-European Linguistics*, by Jens Elmegård Rasmussen, pp. 67–81. Copenhagen: Museum

- Tusculanum. (The paper is reprinted from *Papers from the Seventh Scandinavian Conference of Linguistics*, [edited by Fredrik Karlsson], pp. 371–384, University of Helsinki, Department of General Linguistics Publications No. 9, 1983.)
- Rix, Helmut (2001). *Lexicon der Indogermanischen Verben*, 2nd ed., Wiesbaden: Dr. Ludwig Reichert Verlag.
- Schrijver, Peter (1991). *The Reflexes of the Proto-Indo-European Laryngeals in Latin*, Amsterdam & Atlanta: Rodopi.
- Sihler, Andrew L. (1995). *New Comparative Grammar of Greek and Latin*, New York & Oxford: Oxford University Press.
- Tichy, Eva (1983). *Onomatopoetische Verbalbildungen des Griechischen*, Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Vennemann, Theo (1998). “Etymology and Phonotactics: Latin *grandis* vs. Basque *handi* ‘big’ and similar problems”. *The Journal of Indo-European Studies* 26:345–390.
- (2002). “Key Issues in English Etymology.” In *Sounds, Words, Texts and Change: Selected Papers from 11 ICEHL, Santiago de Compostela, 7–11 September 2000*, edited by Teresa Fanego, Belén Méndez-Naya, and Elena Seoane, pp. 227–252. Amsterdam & Philadelphia: John Benjamins.
- Watkins, Calvert (2000). *The American Heritage Dictionary of Indo-European Roots*, 2<sup>nd</sup> ed., Boston & New York: Houghton Mifflin.
- Yakubovich, Ilya (2000). “Laryngeals from Velars in Hittite: A Triple-Headed Argument.” In *Proceedings of the Eleventh Annual UCLA Indo-European Conference, Los Angeles, June 4–5, 1999*, edited by Karlene Jones-Bley, Martin E. Huld, and Angela Della Volpe, pp. 135–150. Journal of Indo-European Studies Monograph Series No. 35. Washington, D.C.: Institute for the Study of Man.

# NOSTRATIC, QUO VADIS?

Ronald A. Coleman

## Abstract

In attempting to ascertain where Nostratic is heading and how it is regarded by both the general community and by professional linguists, this paper surveys various categories of criticism of the hypothesis. While the literature provides detailed technical analyses, the views presented here are of a general nature by the writer- a “practical linguist” with a long-term interest in the Indo-European language family. It is hoped that a perspective from outside of academic linguistics might throw some light on how Nostratic is regarded by the interested public at large.

Criticism is grouped under five categories designated arbitrarily as A, B, C, D and E ranging from acceptance with minor qualifications to outright rejection. These categories are outlined as follows:

**Category A criticism**, internal to the so-called “Moscow School”, is a refining process based on the works of V. Illich-Svitych, A. Dolgopolsky and others to which corrections, additions and/or deletions have been made in keeping with on-going research. V. Shevoroshkin, V. Dubo and S. Starostin are some of the leading scholars in this category.

**Category B criticism**, both internal and external comes from American scholars such as Allan Bomhard, the best known, who have developed an alternative reconstruction of Nostratic.

**Category C Criticism** comes generally from specialists in one or more of the daughter language families. This group, finding the hypothesis interesting, has mixed feelings and suspends judgement pending further evidence. Sometimes referred to as the “Agnostics”.

**Category D criticism** is generated from cladistic/lexicostatistic/computer based techniques yielding correlation figures on language comparisons from a group who appear to be more statisticians than linguists. These critics tend to be generally negative in their assessments. There is some overlap between groups C and D.

**Category E criticism** totally reject the hypothesis.

To assist in the wider acceptance of Nostratic, the paper emphasises the great need for increased interdisciplinary teamwork. Few fields of human endeavour, either in the sciences or humanities, can succeed in isolation. To this end, strategies outside of palaeolinguistics are discussed to support the evidence for Nostratic and thus help inspire

wider interest by the educated public. These include: Genetics/DNA findings, striking methodological parallels from Australian languages and a proposed think- tank.

### Preamble

Coming from a professional background outside of academic linguistics, I believe it is in order to offer a brief explanation as to why I have contributed to this Conference which contains papers by some of the world's leading palaeolinguists. Some might accuse me of arrogance and/or ignorance and they are entitled to their opinion. After all, my professional colleagues might react in the same way if a Nostraticist appeared out of the blue to present a geotechnical paper at a conference in my areas of expertise.

So what has motivated me to proceed? The answer can be found in the very nature of Nostratic which links a vast number of different peoples and cultures, making it one of the most exciting intellectual ideas of the twentieth century. This hypothesis, having implications well beyond linguistics and involving pre-history, archaeology, palaeo-demography and genetics, is vital to anybody who is interested in the early history of the human race.

As it is not necessary to be a specialist neurosurgeon to insist that the local hospital acquires a CT scanner, it is equally not necessary to be a palaeolinguist to offer some general observations on Nostratic.

### Introduction

The term *Nostratic* was coined by the Danish linguist Holger Pedersen from the Latin adjective *nostras* (genitive *nostratis*) meaning *of our country, native*.

As defined by Illich-Svitych and by Dolgopolsky, the Nostratic macrofamily includes the following six language families:

- Indo-European
- Afroasiatic aka Hamito-Semitic ( N. Africa and the Middle East)
- Kartvelian (South Caucasian)
- Uralic–Yukaghir (N. Europe extending into Siberia)
- Altaic- (Turkic, Mongolian and Tungusic)
- Dravidian (South Indian)

Renfrew (1999), in his introduction to the conference - *Nostratic: Examining a Linguistic Macrofamily*, however, remarks on the problematic nature of this list in which even Altaic is regarded as controversial by some linguists. Conversely, he notes that Dolgopolsky would today expand Altaic to include also Japanese and Korean. Some scholars such as Mudrak, Bomhard and Greenberg also include Eskimo-Aleut in the macrofamily. Further, some of the members of the Moscow school, notably Starostin, (1999:137) would set the Afroasiatic family adjacent to, rather than within the Nostratic macrofamily.

Renfrew further adds that the position of Dravidian within Nostratic is also considered marginal by some scholars with Dolgopolsky even having his doubts. The

## *Nostratic, Quo Vadis?*

picture is further complicated by Greenberg (2000), who besides Eskimo-Aleut, also added Chukchi-Kamchatkan, Japanese, Korean, Ainu and Gilyak to the original Illich-Svitych list but excluded Afroasiatic, Kartvelian and Dravidian.

### **Aims**

There are three main aims of this paper.

1. The first is to attempt to address the question why Nostratic is still neither widely known by the public nor accepted by the majority of linguists, given the tremendous advances made in research over the last century.
2. The second is to look at the types of criticism levelled at Nostratic and to analyse them in five categories. These are illustrated by citations from the critical literature, of which there is no shortage.
3. The third aim is to propose non-linguistic strategies to support the evidence for Nostratic and thus help inspire interest and wider acceptance by the general educated public.

### **Nostratic ? Nostradamus ? Cosa nostra?**

These are typical replies when Nostratic is mentioned to my friends and colleagues of diverse professional backgrounds, many of whom have at least a nodding acquaintance with Proto-Indo-European (PIE). In addition, an informal survey I carried out revealed that the Nostratic hypothesis is almost completely unknown, even among academic linguists in our four universities in Sydney. Additionally, a database search of four leading east coast Australian universities, each with good linguistic departments and well stocked libraries turned up the grand total of four texts on the subject.

And what of a curious person consulting the *Oxford Concise Dictionary of Linguistics* by Matthews (1997:247) for enlightenment? The entry reads:

“Nostratic”: (note Matthew’s sarcastic quotation marks)

Conjectural family of languages whose branches are usually said to include at least \*IE, \*AA etc (the Illich-Svitych list). *Divers others are added by divers enthusiasts.....* An old conjecture, but despite continuing attempts to give substance to it, *still the kind of hypothesis one believes to the extent that one believes in that kind of hypothesis.*” (My italics) .

One might ask if our curious person would bother to proceed any further after this putdown. After all, the learned author is Professor of Linguistics at Cambridge University, no less. Nostratic does suffer from a severe image problem!

And try convincing somebody that English, Arabic, Hungarian and even possibly Japanese are all distantly related via Nostratic. Well, it is all against “common sense”, isn’t it?

In spite of the extraordinary volume of existing scholarship on Nostratic, this hundred year old hypothesis has still not been accepted widely by the linguistic fraternity and the general public. Why is this the case?

Some cultural and political reasons are suggested below.

The cultural, philosophical, artistic and linguistic differences between the “Anglo World” - USA, the UK, Australia, Canada, NZ - and Continental Europe are very marked indicating two quite distinct *Weltanschauungen*. Significant differences are evident during the first half of the 20<sup>th</sup> century between the main philosophical thrust of the Oxford School -Bertrand Russell, for example-obsessed with abstruse mathematical logic, and the French socially engaged schools of existentialism of Camus and Sartre and, later, Derrida’s deconstructionism. Or a comparison could be made earlier in the century on the great European experiments in art – impressionism, cubism and dadaism and the conservative art of the Anglo World.

Over this period Anglo linguistics, especially in the USA, was heading into the directions of Chomsky’s Transformational/ Generative Grammar and his School, leaving historical linguistics as an “old-fashioned” discipline to the Europeans, in particular the Moscow School.

Analysing the situation more technically from a linguistic perspective, linguistics in the Anglo-world grew out of anthropology, while in Europe it grew out of philology in which Nostratic and PIE were practiced as philological arts/sciences. On the other hand, the theory of Anglo descriptive linguistics, based on De Sassure’s structuralism, separated language into synchronic/diachronic and denied the possibility of historical work without written ancient texts.

On the political level, the deep enduring mistrust of all things Russian has also been a significant factor in the slow acceptance of Nostratic. Additionally, the problem was exacerbated by the fact that all of the 1960s seminal works were in Russian, rather than the far more accessible English, French or German languages.

### A critique of the critics

Criticism is grouped under five main categories designated A to E, ranging from “in school” debates to outright rejection.

**Category A criticism**, internal to the Moscow School, is a refining process based on the works of Illich-Svitych, Dolgopolsky and others to which corrections, additions and deletions are made in keeping with on-going research. Shevoroshkin, Ivanov, Dybo and Starostin are also among the best known scholars but this list is by no means complete. An excellent cross section of the writings of this School is presented in *Typology, Relationship and Time* edited by Shevoroshkin and Markey (1986).

The substantial foreword by the Editors includes, among other topics, an informative and succinct history of comparative linguistics, methods of comparison,

Dravidian, Indo-European, Kartvelian, the development of Nostratic and the disagreements between the Moscow and American Schools.

As for the essays in the volume, Ivanov(1980:1-26) clarifies the difference between a proto-language and a mere system of correspondences. By the same author (Ivanov, 1972:51-56 & 1977:57-65) , there are two reviews on Vol I and II of Illich-Svitych's *Dictionary of the Nostratic Languages*. Dolgopolsky(1964:27-50) discusses a probabilistic hypothesis on the oldest relationships among the language families in Northern Eurasia, including an interesting list of the frequency of replacement of 250 semantic values over time.

Gamkrelidze and Ivanov (1980:87-108) discuss the reconstruction of the PIE stops and glottalised stops from the traditional reconstructions to modern interpretations. There is also a dissident paper by Serebrennikov (1983:66-86) entitled *On the So-called "Nostratic" Languages* , the title speaking for itself.

Leaving the technical arguments in the above text to the specialists, I offer the following observations on their overall presentation. Clear, user-friendly, persuasive presentation of complex data and results is an area in which I am well qualified from my professional life embracing consulting, teaching, technical report writing and design/delivery of seminars.

Many of the above papers and Nostratic literature in general leave much to be desired in their readability. Four such problems are:

1. Clutter on the page: too many comparative etyma being jammed haphazardly together, mixed with citations of sources, authorities, journals and quotations.
2. Inconsistent and/or non-standard use of phonetic symbols from author to author often without an explanatory key.
3. Omission of sketch maps in papers discussing obscure language families of say, the Americas or Africa, on the assumption that all readers would be familiar with these specialist areas.
4. Launching directly into detailed lexical comparisons without a short general introduction on the historical/cultural background of the families.

An example of some of these problems is illustrated by Dolgopolsky (2002) in the *Three Entries from the 'Nostratic Dictionary'* in which a wealth of valuable scholarship is buried in a swamp of poor graphic page design.

However, these comment could apply to much of the output from the Moscow School and to European linguists in general.

**Category B criticism**, both internal and external comes from outside of the Moscow group with an alternate reconstruction of Nostratic: the most prominent scholar is the American, Allan Bomhard. *The Nostratic Macrofamily- A Study in Distant Linguistic Relations* by Bomhard and Kerns (1994) systematically surveys the Nostratic

languages, their comparative phonology, morphology and syntax and includes a 60 page dictionary of English meanings with their Proto-Nostratic roots. At the 2003 Centennial Conference, the author generously presented all delegates with a CD of his recently updated book which goes into considerable more detail than the earlier text cited above.

In this CD text, Bomhard (2003:22 ) presents a family tree showing the relationship between the following Nostratic languages:

- Indo-European
- Kartvelian
- Afrasian
- Uralic-Yukaghir
- Elamo-Dravidian
- Altaic
- Chukchi-Kamchatkan
- Gilyak
- Eskimo-Aleut

Further in the same text on p. 35, Sumerian is also included and discussed, a language that is generally not included by other authors. Chapter 2 – *A Survey of the Nostratic Languages* (p.27-36) does not discuss Etruscan (from the 1994 list) although Etruscan roots are cited sporadically later throughout the body of the text.

In contrast to my Category A criticisms on layout, presentation and general readability, Bomhard's book is lucidly presented overall including phonological correspondences and the like in clear tabular format. In addition, it has around a dozen maps (p.245 et seq) covering the homelands, distribution and dispersal of IE, Nostratic and agriculture.

The technical differences between the two Schools, *Critique of Muscovite Views on Nostratic*, are outlined by on page 18.

**Category C criticism** comes generally from specialists in one or more of the daughter language families who, finding the Nostratic hypothesis interesting, have mixed feelings and suspend judgement pending additional evidence. Their reviews, at best, are generally lukewarm and when they agree, it can be a case of "damning with faint praise". Unfortunately, this category is probably the majority position.

Some typical opinions follow:

"With respect to the validity of the (Nostratic) reconstruction, I suggest that a number of characteristics of the reconstruction makes it less than optimally testable, in particular unexplained irregular developments, the use of unspecified segments, the size of the reconstructed phoneme inventory and the positing of synonyms. I suggest a criterion of 'openness' to make such problems explicit, thus facilitating the dialogue between scholars advocating and rejecting the Nostratic hypothesis Comrie (1999:243)



### *Nostratic, Quo Vadis?*

“ I am essentially a ‘splitter’ who is perhaps (if rather somewhat romantically) attracted by the ideas of the ‘lumpers’ but who is not convinced and doubts the methodological integrity of ‘lumping’. Appleyard (1999:289)

(Note: ‘Lumpers’ are quick to see the genetic connections between large linguistic units while ‘Splitters’ identify and quantify smaller units such as language families or branches.)-

“ Nostratic can be viewed, in many ways as a religion: either you believe or you do not” Kaye (1999:327)

“The enormous potential of Nostratic studies to contribute to our understanding of human linguistic history” Vine (1998:85)

“The eventual success any such serious investigation may find will be proportional to the precision and depth of its analyses, which would very likely be enhanced by structured programs of cooperative and collaborative research” Vine (1998:103)

“..... give support to the possibility that we will soon develop a reconstruction of Nostratic, consistent with what we know of the attested daughter languages, and plausible as a real language once spoken by real people.” Manaster- Ramer et al (1998:79)

**The Category D critics** are the cladistic/lexicostatistic/computer group who calculate correlation figures on language comparisons, treating Nostratic as an exact science. Their results are often inconclusive or negative. My own gut feeling, having had a fair bit to do with computers, is one of scepticism that computers can achieve what a learned specialist in any field cannot.

Their great advantage lies, however, in the skills of the cyber- priesthood in conning the often computer semi- illiterate humanity specialists into thinking that their programs are infallible.

Some of the published papers in this area appear to be naive. They simply list two lexical sets and program the computer to find matches between consonants to produce correlation coefficients allegedly showing the degree of relationship between the two languages.

An example of this genre is *An Algorithm to Align Words for Historical Comparison* by Covington (1997:1-17) of the Artificial Intelligence Centre of the University of Georgia, USA. In this method, arbitrary penalty scores are allocated to consonant alignment mismatches. Some human, rather than artificial intelligence would have been far more productive.

Kondrak (2000:288-295) presents a method of identifying cognates in the vocabularies of related languages based on multivalued features, keyword selection and the Program WordNet. Using this sophisticated mathematical approach applied to four Algonquian languages, he found that the method is capable of discovering on average

nearly 75% of cognates at **50% precision**. (my emphasis). This is the same probability from a tossed coin!

Ringe(1998:187) concludes that:

“Indo-Uralic is probably the part of the Nostratic hypothesis that is most likely to be correct; yet **sober statistical testing** of the relationship can barely establish it even probabilistically” (my emphasis)

This conclusion might be a good argument against probabilistic methods and/or sobriety. It contradicts the not insignificant evidence that Uralic and IE are related as demonstrated, for example, by Hyllested (2003) in his convincing reconstruction of a sizable Proto Indo-Uralic vocabulary from PIE and Proto-Uralic roots.

Finally, an example from Ringe, Tandy and Taylor (2002:59). I was unsure if this is meant to be a joke, at their own expense: if so, it's good to see computer people with a sense of humour. Using a set of 329 characters all within the IE family, a phylogenetic tree was computer generated showing Old English located solidly within the Satem core, on adjacent branches to Avestan, Vedic, Lithuanian and Old Church Slavonic. The tree also could not place Albanian anywhere: possibly the Albanian wood got lost among the trees! (Note: the Editor assured me that the authors were not joking. Sad!)

It is fortunate that computers were not around when the great early comparative historical linguists demonstrated that Armenian belonged to the IE family. Computer analysis would have rejected any correlation between the numbers *erk'u* (2) and *erek* (3) of Classical Armenian and the IE forms of \*duwo and \*treyes respectively. It would appear that by the time intelligent lists of cognates have been drawn up by competent linguists for the software to process, 99% of the work has already been done.

Finally, McMahon and Mc Mahon (2002:3) make some very thoughtful points in their *Lies, Damned Lies, and Cladistics: Linguistic Classification and Genetic Correlations*. They quote a comment from Michael Cysouw who responded electronically to a computer generated phylogenetic tree confirming a highly congruent relationship between Austronesian genes, language and migrations (Gray and Jordan, 2000:1052).

Cysouw states:

“As far as I can see, nothing new results from their analyses. ... So it seems possible to publish an article in *Nature* just by using the right computer program and forget that many years of research have been performed in linguistics to be able to perform these analyses.”

**Category E critics** totally reject Nostratic. Three of the harshest critics include Don Ringe, Larry Trask and Lyle Campbell. The paper has presented a number of comments by Ringe in the previous section so just one final quote is included here.

“In any discipline that deals with real world phenomena, empirical proof is basic to everything else. If after 10 millennia (or 12, or whatever the

threshold is exactly) the similarities between diverging languages of common origin become indistinguishable from similarities that could easily have arisen by random chance, language relationships at that and greater time depths simply cannot be posited by scientific linguists; no other conclusion can be accepted. Ringe (1995:72)

However, other interpretations and conclusions can indeed be accepted, as illustrated by the following remarks by Baxter (1998:234):

“ It is clear and quite uncontroversial, that probabilistic methods can help us decide whether apparent resemblances between languages could be due to chance. But probability theory has its own standards of caution and rigour, and the techniques of hypothesis testing are subtle and notoriously subject to misinterpretation. In particular, a significance test tests only one hypothesis at a time; the results are relevant to that one hypothesis, and only if the test is well constructed and carefully interpreted. As much as we might wish for an empirical test to determine whether a language relationship could ever be demonstrated, probabilistic tests simply do not have this power.”

Trask (1999:157 ) appears to have very deep seated objections to macrofamilies in general:

“The real question, in my view, is not why isolates exist, but why families exist – and above all large families. Why should there be large families like Indo-European and Austronesian? .... Why should Nostratic exist? How could it exist ? And furthermore, even if it somehow does exist, how can it have the properties ascribed to it?”

It is hard to know if he is being serious, or just stirring, but yes, Trask is after all an expert on the Basque isolate. If Basque is unrelated to any other known language on the planet, why should language families exist?

I just find it hard to visualise our Palaeolithic ancestor, \*Ug?walo, sitting on a rock when suddenly a wild Przewalski gallops by to the startled exclamation of \*Ekwo, \*Ekwo !, the name having just materialised out of thin air.

Lyle Campbell (1998:145) does not beat about the bush:

“I personally reject the Nostratic hypothesis”

Campbell (1999:179), commenting on Dolgopolsky’s *The Nostratic Macrofamily and Linguistic Palaeontology*, states:

“Nearly all of Dolgopolsky’s 124 Nostratic lexical sets exhibit serious problems from the point of view of methodology”.

This contrasts sharply with the assessment of Starostin (1999:137) who asserts that:

“ Most of the lexical material that he (Dolgopolsky) presents is valid and reflects, in my opinion, a deep genetic unity of the languages included – I E, Kartvelian, Altaic, Uralic, Dravidian and Hamito-Semitic.”

### **Nostratic, quo vadis ?**

As discussed previously, two of the most damaging objections levelled against Nostratic are the existence of substantial disagreement among scholars on the macrofamily membership, typified by Matthews(1997:247) and the argument regarding random chance at great time depth typified by Ringe (1995:72 and 1998:187).

Strategies to provide auxiliary evidence to at least partially address these problems are:

- Archaeogenetics (DNA) methods to clarify or perhaps even confirm family membership.
- Parallels from Australian languages illustrating that similarities in phonology, grammar and vocabulary do persist at great time depths contrary to the claims of glottochronology.
- To conclude: a think tank is proposed to plot future directions for Nostratic.

The evidence from archaeology is not discussed here as the significant contributions from this field are well known and acknowledged.

### **Archaeogenetics**

Personal discussions with some delegates at the Conference and elsewhere indicated scepticism towards the genetic/ DNA approach. The reason usually cited is that genes do not determine the language spoken, a statement with which I fully concur. Another unspoken factor appeared to be that some scholars, exclusively occupied with the minutiae of their own specialist area, were reluctant to spend the extra effort on time-consuming interdisciplinary teamwork. Others were not even keen to work with archaeologists, stating that the latter think differently from linguists (this could be a distinct advantage !)

However, there is a good case for archaeogenetics to be used not as primary determinants of family/phylum membership, but rather as auxiliary supporting evidence to confirm or clarify the linguistic evidence. Some examples are presented here.

Cavalli-Sforza (2001:150), one of the great founding fathers of archaeogenetics, states:

“Let me start by emphasizing that there is no reason to think that genes influence the ability to speak one language over another”.

However, he continues:

“Linguistic evolution is a special type of cultural evolution..... How is it possible for these two different systems to follow parallel evolutionary trajectories, or to coevolve? The explanation is quite simple. Two isolated populations differentiate both genetically and linguistically. Isolation, which could result from geographic, ecological or social barriers, reduces the likelihood of marriage between populations, and as a result, reciprocally isolated populations will evolve independently and gradually become different. Genetic differentiation of reciprocally isolated populations occurs slowly but regularly over time. We can expect the same thing to happen with languages: isolation diminishes cultural exchange, and the two languages will drift apart. .... In principle, therefore, the linguistic tree and the genetic tree of populations should agree, since they reflect the same history of populations splitting and evolving independently.”

While qualifying the above by the obvious disruptive effects of military and cultural conquests on isolated populations- citing the Hungarians, Finns, Lapps, Ethiopians, Tibetans and others- he is confident that it is still a powerful principle. His genetic/linguistic trees covering most of the world's language families, including Nostratic as a Superphylum together with a “calibration” tree for the IE family are shown on the following pages, identified as Figures 12 and 13 respectively.

Spencer Wells (2003) relies on more recent genetic techniques involving DNA mutations on the male transmitted Y-chromosome. This method is far more sensitive in determining minor differences in populations than the earlier technology involving female mitochondrial DNA (mtDNA) used by Cavalli-Sforza for much of his research.

In addition to copious research findings from Europe and the Middle East, Wells presents genetic evidence in support of Greenberg's proposition that the Amerind family was introduced by the earliest migration into the Americas because it is the most widespread and is the only one spoken in South America. Wells (2003:143) states:

“The genetic data bear this out, with Amerind speakers in both North and South America sharing high frequencies of the mutations  $M_{242}$  and  $M_3$  – marking them members of the Siberian clan. The mtDNA data obtained by Torroni and Wallace also supports an early Amerind settlement of the Americas. It seems likely that our Beringian hunters were speaking a language that was ancestral to modern Amerind languages, and that 12,000 years of divergence has produced the extraordinary linguistic variety we see today.”

Three examples relating to questions posed by papers from the Centennial Conference are discussed where DNA research might be able to confirm/clarify tentative conclusions.

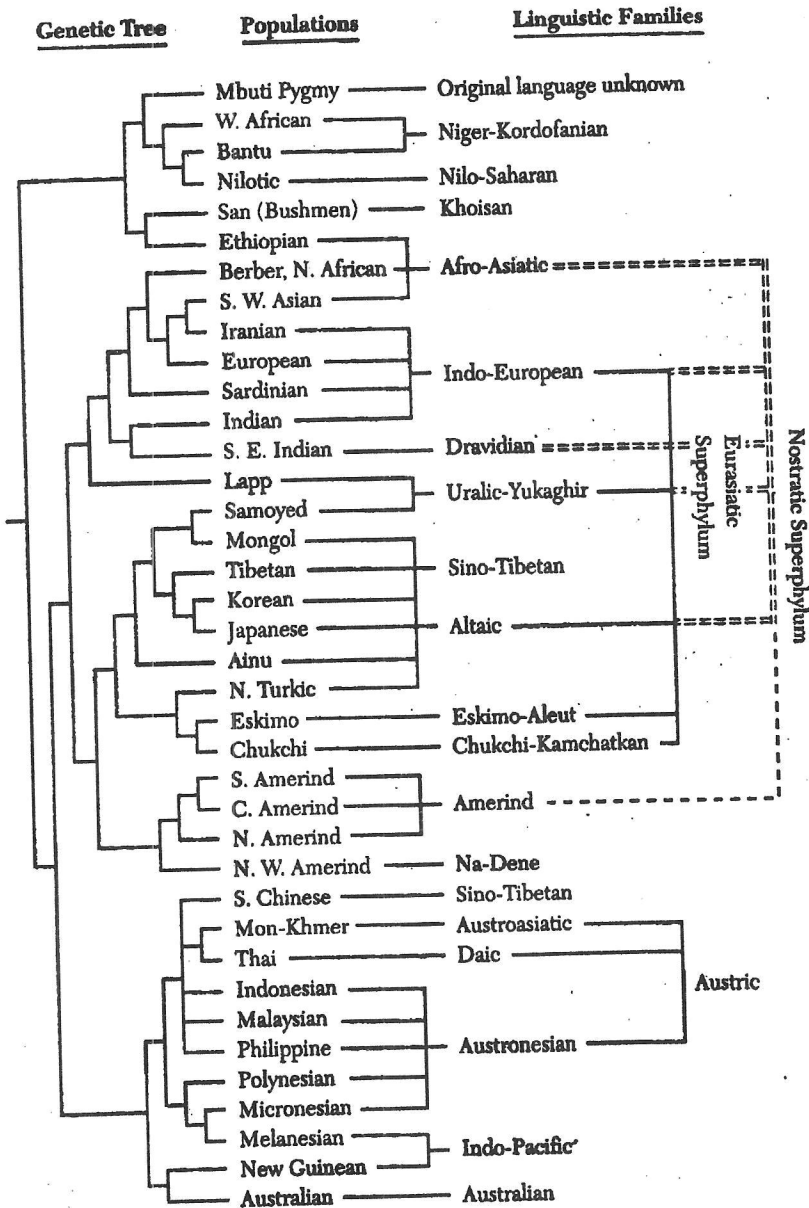


Figure 12. The comparison of genetic and linguistic trees (Cavalli-Sforza et al. 1988, pp. 6002-6).

# Nostratic, Quo Vadis?

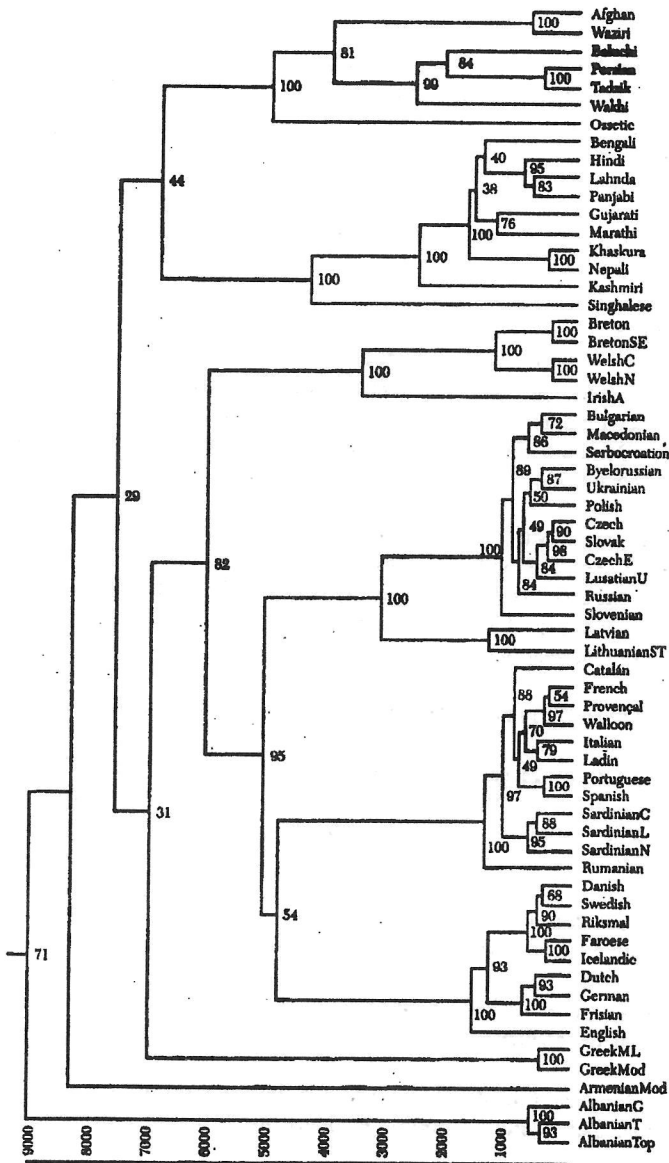


Figure 13. Tree of 63 Indo-European languages. Numbers near branches indicate the reliability in percent of the specific branch, calculated by the method of the bootstrap. The scale on the bottom indicates years. (From an unpublished manuscript by Piazza, Minch, and Cavalli-Sforza, based on data from Dyen, Kruskal, and Black 1992)

Shevoroskin (2003:24) concludes:

“It seems, the Sa-Wk (Salish-Wakashan) languages are closer to NC (North Caucasian) than Yenisean and Sino-Tibetan languages are. This **may mean** that the Sa-Wk languages ..... represent a late wave of the speakers of proto-NC which broke away from the majority of the speakers and drifted to the North-East.” ( my emphases)

Genetic data on the populations mentioned might be able to more positively confirm the tentative conclusions.

Another case is that presented by King (2003:15) on conflicting theories of the origin of Yiddish. One theory indicates that Eastern and Central European Jewry (Ashkenazic) is not **genetically** Semitic at all, rather a Slavo-Turkic people in search of Jewish identity. Genetics appears to have been used successfully here and perhaps further light could be shed on other aspects of this problem by DNA methods. (my emphasis)

Lastly, Bomhard (2003:268) in discussing his inclusion of Sumerian loosely under Nostratic concludes:

“It does not appear to be a Nostratic daughter language in its own right either. Rather, the evidence seems to indicate that Sumerian is descended from a language that was in some way related to Nostratic. However, there are also many problems that must still be solved regarding the exact nature of that relationship.”

Wells (2003:170) might offer some clues to the Sumerian question:

“The generally close genetic similarity between Caucasian populations and those from the Middle East suggests that there was a substantial influx of people during the Neolithic, who may have introduced languages related to Sumerian to the region.”

### **Parallels from Australian (Aboriginal) languages**

As stated by the archaeologists Mulvaney & Kamminga (1999:74):

“Possibly the Australian language family is the world’s oldest and offers a useful model of Pleistocene language development in other continents.”

Given the great time depth involved, I believe that if it is possible to reconstruct Proto-Australian, then useful supporting evidence for a similar process in Nostratic is provided.

However, as an offshoot of anthropology, the coherent academic discipline of Australian language studies began only around three decades ago. Some background facts and problems are discussed below.

Unfortunately, of the estimated 250 languages spoken by at least 300,000 Aboriginal people at the time of the first European settlement in 1788, less than ten



thousand people today are speakers of Aboriginal languages as their first tongue. This figure is problematic and varies from author to author; for example Mulvaney & Kamminga (1999:69) estimate that:

“Only a few thousand people today are speakers of the 30 or so extant Aboriginal languages as their first tongue.”

For example, Elder Charles Moran (2004), of the Bundjalung tribe of the North Coast of NSW, told me of the sad state of his language today. As his first language up till the age of ten, Charles estimates that some 64 years later there are probably less than a dozen speakers of Bundjalung as their first language.

Amid considerable debate and controversy, there is an emerging consensus that there was once a Proto-Australian language from which the large Pama-Nyungan family broke away and spread widely throughout the continent. The name derives respectively from the word for *person* in a Cape York language and *one* in the southwest. Pama-Nyungan is a typological clustering of about 20 internally homogeneous language groups comprising around 190 different languages. Non-Pama-Nyungan is a group of languages located in Arnhem Land and the Kimberley region of tropical northern Australia and comprises 60 languages in about nine families.

Ongoing reconstructions of Proto-Australian and Proto-Pama-Nyungan illustrate that similarities in grammar and vocabulary can persist over great time depths, well exceeding that of Nostratic. The original Australians started arriving at least 50,000 to 60,000 thousand years ago and the picture is complicated by probable successive migration waves, making the exact age of the proto-language that eventually dominated difficult to pin down.

The systematic scientific study of Australian prehistory is very recent, many fundamental questions remaining unanswered, and experts either disagree or avoid the question of the actual age of Proto-Australian (PA). But from what archaeological evidence is known, it can be reasonably inferred that PA is at least 7,000 years old but less than 50,000 years. The 7,000 figure is the upper limit for the estimated age of Proto-Pama-Nyungan. By comparison, the estimated time depth of 12,000-15,000 years for Nostratic is rather modest compared with the probable age of PA of somewhere between 7,000 and 50,000 years. These estimates of course contradict predictions of the glottochronological/ lexicostatistical School that a maximum of 6,000 – 7,000 years for maintenance of recognition between languages is possible. But this too is a point of view that has not been scientifically proven.

A summary of the striking number of common attributes of Australian languages, in spite of the great time depth and separation distances of up to 5,000 Km, is given below:

(This section is based on the Introduction in Thieberger & McGregor (1994) and various other standard texts.)

#### **Phonology:**

The majority of languages have:

- up to six stops and six corresponding nasals
- two rhotics and four laterals

- neither sibilants [s], [z], [ʃ] nor fricatives [f] and [v]
- two semi-vowels [y] and [w]
- only three vowels [i], [a], [u] but a few have four or more.

### **Vocabulary:**

There are about 50 common roots. E.g. bu- = to hit., ka- = to carry, mala/mara = hand, jina = foot, nya- = to see. Na- as in nata, naya or nayu = I.

### **Semantics:**

A semantic homogeneity relating to a hunter/gatherer lifestyle.

Wide semantic fields and the use of metaphor are distinguishing features of many languages. For example, the same word often refers to an item and its source, the material from which it comes as in fire/ firewood, milk/breast or activity/result such as sink/ drown, hear/ listen and hit/kill. Metaphors include the use of body parts to extend meanings to geographical or abstract ideas such as back/ridge and chest/front ness.

### **Grammar:**

Complex grammar with many inflected forms of the noun which can include some or all of the cases: nominative, instrumental, locative, allative, ablative, dative, comitative and especially ergative. Similar ergative case endings are found spread throughout the continent: -lu for personal names and -ngku for common nouns.

There is still some disagreement among Australianists on the validity of reconstructing proto-languages using the family tree model in a climate where a dominant diffusionist model once prevailed. However, there appears to be a quiet revolution in progress over the last few years as summed up succinctly by Bowern (2002:1):

“Diffusionist models such as ‘punctuated equilibrium’ of Dixon are based on the assumption that linguistic genetic relationships should be able to be modelled on a family tree, and conversely that if one cannot model the relationship between given languages on a family tree, the relationship cannot be a genetic one. Indeed, punctuated equilibrium was invented in part to account for the lack of obvious binary- branching trees within the Pama-Nyungan family.”

Australianists are increasingly turning to the classical comparative method with promising results. Reference is made to; O’Grady (1998), Alpher (2002), Koch (2003), McConvell (2003), Miceli (2003) and Bowern & Koch (2004), to name but a few. From these works a consensus is emerging that Australian languages do not require special theories to explain their genesis and development, but are subject to the same comparative laws applied to language families world wide.

To summarise, a case has been presented that if a language family as old as Proto-Australian can be reasonably established with a time depth somewhere in the range 7,000 –50,000 years, what are the objections to the posulated time depth of Nostratic?

### **A Think-Tank**

Nostratic will lose momentum if it tries to advance without becoming multi-disciplinary. By analogy, in my speciality of Geotechnical Engineering, as in ancient language reconstructions, one often works with scanty, fragmented pieces of data, evidence and inferences. This necessitates drawing on any fields of expertise which might further the understanding of complex occurrences such as major landslides. In large potentially dangerous projects this might involve the combined expertise of a multi-disciplinary team comprising: structural geologists, surveyors, groundwater hydrologists, seismic physicists, chemists, meteorologists, mining engineers, human resource managers, lawyers and economists in addition to geotechnical engineers.

A similar approach is necessary in order to fill in many of the gaps and missing links in the evidence for Nostratic.

My proposal is to convene a multi-disciplinary think-tank of experts in Nostratic, associated ancient languages and their descendents, archaeology, prehistory, palaeo-genetics, anthropology, cultural geography and possibly palaeo-climatology. However, this list is flexible and might include other disciplines deemed necessary.

Personal skills of the selected panel members would include good teamwork ability, tolerance, good verbal communication and listening skills and constructive lateral thinking. The members should be preferably broad-brush thinkers, referred to earlier as “lumpers”, rather than “splitters”.

A high priority item on the agenda would be to reach an agreement on the characteristics of the language families in Nostratic and hence try to resolve what this list actually is. Additionally, as it is essential to deal with the objections of random chance of the Category D group, the team would need to include at least one representative chosen for his/her expertise in both lexicostatistics **and** linguistics.

Finally, as agreed at the Pécs Conference, a book of popular appeal on Nostratic directed at the general reader needs to be produced. As an excellent model, I would strongly suggest *The Atlas of Languages* edited by Comrie, Matthews and Polinsky (2003).

This superbly presented Australian hardcover book, selling for around US \$35, contains 224 glossy pages of coloured maps, photographs, charts, family trees, language examples and descriptive text. It is very readable for non-linguists but contains useful data for linguists as well as it covers virtually all the languages in the world, chapter by chapter. It even devotes a page to Nostratic which is given a very positive review.

### **Conclusion**

Nostratic, one of the truly significant intellectual ideas of the twentieth century is now one hundred years old. Despite prodigious scholarship and research on two continents, much of it during the last 40 years, the idea is yet to win majority acceptance among the linguistic community at large. This paper has attempted to pinpoint the problems, to analyse and appraise the types of criticism and propose future strategies to enable Nostratic to gain wider acceptance both within the linguistic community and with the public.

## References

- Alpher, Barry, 2002. Towards a History of Aboriginal Terms for Living Things in Northern Australia, in *ARCLING II, The Second Conference on the Archaeology and Linguistics of Australia*, Canberra, Australia, 1-4 Oct 2002.
- Appleyard, David, 1999. Chapter 14: Afroasiatic and the Nostratic hypothesis, in *Nostratic: Examining a Linguistic Macrofamily*, eds. Colin Renfrew & Daniel Nettle, Cambridge, McDonald Institute for Archaeological Research.
- Baxter, William H., 1998. Response to Oswalt and Ringe, in *Nostratic, Sifting the Evidence*, eds. Joseph C. Salmons and Brian D. Joseph, Amsterdam Studies in the Theory and History of Linguistic Science, Vol 142, pub. John Benjamins Co, Amsterdam/Philadelphia.
- Bomhard, Allan R. & Kerns, John C., 1994. *The Nostratic Macrofamily, A Study in Distant Linguistic Relations*, Trends in Linguistics, Studies and Monographs 74, ed. Werner Winter, Mouton de Gruyter, Berlin, New York.
- Bomhard, Allan R., 2003, *Reconstructing Proto-Nostratic: Comparative Phonology, Morphology and Vocabulary*, (on CD) Signum Desktop Publ., Charleston, USA.
- Bowern, Claire, 2002, Karnic as a Genetic Area, From the web, origin unknown.
- Bowern, Claire and Koch, Harold, 2004, *Australian Languages: Classification and the Comparative Method*, Harvard University/Aust Nat University, publ. John Benjamins.
- Campbell, Lyle, 1998. Nostratic: A Personal Assessment, in *Nostratic, Sifting the Evidence*, eds. Joseph C. Salmons and Brian D. Joseph, Amsterdam Studies in the Theory and History of Linguistic Science, Vol 142, pub. John Benjamins Co, Amsterdam/Philadelphia.
- Campbell, Lyle, 1999. Nostratic and linguistic palaeontology in methodological perspective, in *Nostratic: Examining a Linguistic Macrofamily*, eds. Colin Renfrew & Daniel Nettle, Cambridge, McDonald Institute for Archaeological Research.
- Cavalli-Sforza, Luigi Luca., 2001. *Genes, People and Languages*, London: The Penguin Press.
- Comrie, Bernard, 1999. Chapter 11: Nostratic language and culture: some methodological reflections, in *Nostratic: Examining a Linguistic Macrofamily*, eds. Colin Renfrew & Daniel Nettle, Cambridge, McDonald Institute for Archaeological Research.
- Comrie, Bernard, Stephen Matthews and Maria Polinsky, 2003, *SBS Atlas of Languages – the Origin and Development of Languages Throughout the World*, The Australian Broadcasting Corporation, Quarto Publishing, New Australian ed.
- Covington, Michael A., 1997. An Algorithm to align Words for Historical Comparison, *Research Report*, Artificial Intelligence Center, The University of Georgia, USA.
- Dolgopolsky, Aharon B., 1964. A Probabilistic Hypothesis Concerning the Oldest Relationships among the Language Families of Northern Eurasia, in *Typology Relationship and Time –A Collection of Papers on Language Change and*

- Relationship by Soviet Linguists*, eds. and trans. Shevoroshkin, Vitalij and Markey, T. L By Karoma Publishers, Inc., Ann Arbor, USA.
- Dolgopolsky, Aharon, 1998. *The Nostratic Macrofamily and Linguistic Palaeontology*, (Papers in the Prehistory of Languages), Cambridge, McDonald Institute for Archaeological Research.
- Dolgopolsky, Aharon B., 2002. Three Entries from the 'Nostratic Dictionary', in *Languages and their Speakers in Ancient Eurasia: Dedicated to Prof. Aharon Dolgopolsky on his 70<sup>th</sup> Birthday*, eds. Vitaly Shevoroshkin and Paul Sidwell, Vol 5, Monograph Series, pub. in Canberra, Association for the History of Language.
- Gamkrelidze, T. V. and Ivanov, V. V., 1980. On the Reconstruction of the Proto-Indo-European Stops. Glottalized Stops in Indo-European, in *Typology Relationship and Time –A Collection of Papers on Language Change and Relationship by Soviet Linguists*, eds. and trans. Shevoroshkin, Vitalij and Markey, T. L By Karoma Publishers, Inc., Ann Arbor, USA.
- Gray, Russel and Fiona Jordan, 2000. Language trees support the express-train sequence of Austronesian expansion, *Nature*, 405, 1052-1055.
- Greenberg, Joseph, 2000, Indo-European and its Closest Relatives: the Eurasiatic Language Family, Vol 1.
- Hyllested, Adam, 2003, The Reflexes of Nostratic "Laryngeals" in Uralic – An Alternative View. *Program & Abstracts, The Nostratic Centennial Conference*, Pécs, Hungary, Aug 21-23 2003.
- Ivanov, V.V., 1972. Review of V. M. Illich-Svitych's Dictionary of the Nostratic Languages Vol I, , in *Typology Relationship and Time –A Collection of Papers on Language Change and Relationship by Soviet Linguists*, eds. and trans. Shevoroshkin, Vitalij and Markey, T. L By Karoma Publishers, Inc., Ann Arbor, USA.
- Ivanov, V.V., 1977. Review of V. M. Illich-Svitych's Dictionary of the Nostratic Languages Vol II, , in *Typology Relationship and Time –A Collection of Papers on Language Change and Relationship by Soviet Linguists*, eds. and trans. Shevoroshkin, Vitalij and Markey, T. L By Karoma Publishers, Inc., Ann Arbor, USA.
- Ivanov, V. V., 1980. Proto-Languages as Objects of Scientific Description, in *Typology Relationship and Time –A Collection of Papers on Language Change and Relationship by Soviet Linguists*, eds. and trans. Shevoroshkin, Vitalij and Markey, T. L By Karoma Publishers, Inc., Ann Arbor, USA.
- Kaye, Alan S., 1999. The current state of Nostratic linguistics, in *Nostratic: Examining a Linguistic Macrofamily*, eds. Colin Renfrew & Daniel Nettle, Cambridge, McDonald Institute for Archaeological Research.
- King, Robert, 2003, Conflicting Theories of the Origin of Yiddish: Possible Lessons for Nostratic Methodology, *Program & Abstracts, The Nostratic Centennial Conference*, Pécs, Hungary, Aug 21-23 2003.
- Koch, Harold, 2003, Neogrammarian Principles and the Reconstruction of Australian Verb Inflections, *Speakers & Abstracts –Section 7: The XVIth International*

- Conference on Historical Linguistics (ICHL 2003)*, Copenhagen, 11-15 Aug 2003.
- Kondrak, Grzegorz, 2000. A New Algorithm for the Alignment of Phonetic Sequences. In *Proceedings of the First Meeting of the North American Chapter of the Association for Computational Linguistics*.
- Manaster-Ramer, Alexis, Peter Michalove, Karen Baertsch and Karen Adams, 1998. Exploring the Nostratic Hypothesis, in *Nostratic Sifting the Evidence*, eds. Joseph C. Salmons and Brian D. Joseph, Amsterdam Studies in the Theory and History of Linguistic Science, Vol 142, pub. John Benjamins Co, Amsterdam/Philadelphia.
- Matthew, P.H. 1997, *The Concise Oxford Dictionary of Linguistics*, Oxford University Press, UK.
- Mc Convell, Patrick, 2003, Questioning 'Structural Diffusion': Understanding Borrowing and Inheritance in Syntax. , *Speakers & Abstracts –Section 7: The XVIth International Conference on Historical Linguistics (ICHL 2003)*, Copenhagen, 11-15 Aug 2003.
- McMahon, Rob and April McMahon, 2002. Lies, Damned Lies and Cladistics: Linguistic Classification and Genetic Correlations (Draft Version), Source <http://crcl.anu.edu.au/arcling2/RAMcMahon.htm>
- Miceli, Luisa, 2003, On the Relatedness of Australian Languages, *Speakers & Abstracts –Section 7: The XVIth International Conference on Historical Linguistics (ICHL 2003)*, Copenhagen, 11-15 Aug 2003.
- Moran, Charles, 2004, (April) Personal verbal communication in Mummulgum, NSW, Australia.
- Mulvaney, John and Kamminga, Johan, 1999, *Prehistory of Australia*, Allen & Unwin, Sydney, Australia.
- O'Grady, Geoff, 1998, Towards a Proto-Pama-Nyungan Stem List, Part I: Sets J1 – J25, *Oceanic Linguistics*, Vol 37, no 2 Dec.
- Renfrew, Colin, 1999. Nostratic as a Linguistic Macrofamily, in *Nostratic: Examining a Linguistic Macrofamily*, eds. Colin Renfrew & Daniel Nettle, Cambridge, McDonald Institute for Archaeological Research.
- Ringe, Don, 1995. 'Nostratic and the factor of chance, *Diachronica* 12(1), 55-74.
- Ringe, Don, 1998. Probabilistic Evidence for Indo-Uralic, in *Nostratic, Sifting the Evidence*, eds. Joseph C. Salmons and Brian D. Joseph, Amsterdam Studies in the Theory and History of Linguistic Science, Vol 142, pub. John Benjamins Co, Amsterdam/Philadelphia.
- Ringe, Don, Tandy Warnow and Ann Taylor, 2002. Indo-European and Computational Cladistics. *Transactions of the Philological Society* 100; 59-129.
- Serebrennikov, B. A., 1983. On the So-Called "Nostratic" Languages, in *Typology Relationship and Time –A Collection of Papers on Language Change and Relationship by Soviet Linguists*, eds. and trans. Shevoroshkin, Vitalij and Markey, T. L By Karoma Publishers, Inc., Ann Arbor, USA.
- Shevoroshkin, Vitalij and Markey, T. L., 1986. *Typology Relationship and Time –A Collection of Papers on Language Change and Relationship by Soviet Linguists*, Karoma Publishers, Inc., Ann Arbor, USA

*Nostratic, Quo Vadis?*

- Shevoroshkin, Vitalij, 2003, Salish-Wakashan Languages and their Closest Relatives. *Program & Abstracts, The Nostratic Centennial Conference*, Pécs, Hungary, Aug 21-23 2003.
- Starostin, S. A., 1999. Chapter 7 – Sub grouping of Nostratic: comments on Aharon Dolgopolsky's *The Nostratic Macrofamily and Linguistic Palaeontology*, in *Nostratic: Examining a Linguistic Macrofamily*, eds. Colin Renfrew & Daniel Nettle, Cambridge, McDonald Institute for Archaeological Research.
- Thieberger, Nick and Mc Gregor, William, 1994, *Macquarie Aboriginal Words*, The Macquarie Library Pty Ltd, Macquarie University, Sydney.
- Trask, R. L., 1999. Chapter 8 - Why should a language have any relatives? in *Nostratic: Examining a Linguistic Macrofamily*, eds. Colin Renfrew & Daniel Nettle, Cambridge, McDonald Institute for Archaeological Research.
- Vine, Brent, 1998. Indo-European and Nostratic: Some Further Comments( a Response to “Exploring the Nostratic Hypothesis”), in *Nostratic Sifting the Evidence*, eds. Joseph C. Salmons and Brian D. Joseph, Amsterdam Studies in the Theory and History of Linguistic Science, Vol 142, pub. John Benjamins Co, Amsterdam/Philadelphia.
- Wells, Spencer, 2003, *The Journey of Man: A Genetic Odyssey*, Penguin Books.





## SOME PECULIARITIES OF ALTAIC REFLEXES OF NOSTRATIC SIBILANTS

Anna Dybo

The problem of reconstruction of the sibilant system of Proto-Nostratic is maybe the most popular between the Moscow Nostratic school. The first variant of reconstruction was presented in the first volume of V.M.Ilich-Svitych's "Opyt" (ОЧЯ I, pp. 148-149, in English - Dybo 1990, pp.169-170) as follows<sup>13</sup>:

Reconstruction of Nostratic sibilants by Ilich-Svitych 1971

Nostr.	Sem.- Ham.	Kartv.	IE	Ur.	Drav.	Alt.
s	š	s	s	s	c	s
s	š	s	s	s	c	s <sub>1</sub>
š	š	š	s	š	c	s <sub>1</sub>
z-	š	z	s	s	c	ž

All intrafamiliar reconstructions presented in this table are traditional, except Kartvelian s vs. š (or s vs. s<sub>1</sub>): Georgian s - Svan š, and Altaic s<sub>1</sub>: Turkic š, that is Chuvash š by Common Turkic s, Tung.-Manch. š, that is Manchu š by Tungus s. The Kartvelian reconstruction is now accepted, but the Altaic one is evidently not acceptable. The Chuvash development s > š is automatic before \*i, \*y and Proto-Turkic diphthong \*ia reconstructed by Владимирцов-Поппе 1924, cf., from one part, Mong. \*sira 'yellow', Turkic \*siār-, Common Turkic sāryg, Chuvash šur, from other part, Mong. \*čila'un 'stone', Turkic \*tiāl-, Common Turkic dāš, Chuvash čul; Mong. \*kira'un 'hoarfrost', Turkic \*kiār-, Common Turkic kār, Chuvash jur. The Manchu development s > š is also automatic before \*ia and \*i, in a number of cases giving in Manchu another vowel with the palatalisation of previous consonant as a result of vowel breaking process<sup>14</sup>.

Later, A.B. Dolgopolsky worked on the refining of the sibilant reconstruction, mostly on the materials of Afro-Asiatic family; his intermediate results were published, f.e., in *Этимология* 1970 and *Этимология* 1972. The recent stage of the Dolgopolsky's reconstruction is presented in Dolgopolski 1998, pp. 103-104<sup>15</sup>.

<sup>13</sup> We exclude here the lateral row of sibilants as having no special reflexes in the Altaic family.

<sup>14</sup> See, f.e., Цинцус 108, 191-194, but missed by Benzing 41-42.

<sup>15</sup> Here the table is slightly simplified: as A.B. Dolgopolsky is not an adept of Altaic affinity, he presents three separate columns for Turkic, Mongolian and Tungus-Manchu reflexes, that are interpreted here in the terms of the recent Altaic reconstruction.

Reconstruction of Nostratic sibilants by Dolgopolski 1998

Nostr.	Sem.-Ham.	Kartv.	IE	Ur.	Drav.	Alt.
s	š	s	s	s	c	s
s	š	s	s	s	c	s
š	š	š	s	š	c	s
z	z	z	H	s	c	z
-z-	z	z	?H	s	?	?
z	z	z	H	s	c	z
-z-	z	z	H	s	c	ž

As we can see, the main differences between two tables are, firstly, the definite reconstruction of Nostr. palatal resonant, which was only supposed by Illich-Svitych, and, secondly, the re-interpretation of the reflexes of palatal and non-palatal \*s: by Illich-Svitych the palatal row is reconstructed for the correspondence Kart. š - Ur. s, by Dolgopolski - for Ur. š - Kart. s.

In the temporal interval between the intensive work on the reconstruction of Nostratic phonology a number of changes in the phonetic reconstructions of daughter families had taken place. Now, after the appearance of the Etymological dictionary of Altaic languages, we can take the reconstruction of the consonant system of Proto-Altaic with the elaborations presented also in АПиПЯЯ, Дыбо 1990, Дыбо 1991, Дыбо 1995, Дыбо 1996, Дыбо 2000, Мудрак 1985, Мудрак 1988, Мудрак 1989, Мудрак Дисс., Starostin 1997, Street 1980, Street 1985, for granted. The number of sibilants in Proto-Altaic, particularly, increased in this reconstruction.

The new reconstruction of consonant system for Proto-Altaic

p'	p	b	m				
t'	t	d	n	s	z	r	l
č'	č	ž	ń	š	j	ř	ľ
k'	k	g	ŋ				

The sibilant correspondences in Proto-Altaic<sup>16</sup>

PA	Tung.	Mong.	Turk.	Jpn.	Kor.
*s-	*s-	*s-	*s-	*s-	*s-, h-
*s	*s	*s	*s	*s	*s
*z-	*s-	*s-	*j-	*s-	*s-
*č'-	*č-	*č-	*č-	*t-	*č-
*č'	*č	*č	*č	*t	*č
*č-	*ž-	*d- / *č[i]	*d-	*t-	*č-
*č	*s	*č	*č	*s	*č
*ž-	*ž-	*ž-	*j-	*d-	*č-
*ž	*ž	*ž	*j	*j	*č

<sup>16</sup> See EDAL 24-25.

# Altaic Reflexes of Nostratic Sibilants

*š-	*š-	*s- / *č[*A]	*s- / *č[*A]	*s-	*s-
*š	*š	*s	*s	*s	*s

Evidently, all new Proto-Altaic phonemes need an interpretation within the scope of the Nostratic theory. As it was made in Dolgopolsky 1998, such interpretation was obtained by Alt. \*z (the materials confirming the reconstruction are now in print, see ND) but not by Alt. \*š.

The other substantiate modification in the reconstruction of Nostratic subfamilies is the reconstruction of different rows of Dravidian sibilants made by G. Starostin (Старостин 2000) mainly on the materials of Central Dravidian languages. The results of this reconstruction also deserve an interpretation from the point of view of the Nostratic reconstruction<sup>17</sup>.

## Dravidian correspondences of sibilants by G.Starostin

PDrav	SouthDr	Andhra	Central Dr	NorthDr
*s	*s	*s	*s	*c
*s	Ø(/c)	Ø(/c)	*s	*c
*z	s/j	*j	*z	*c
*z	Ø(/j)	Ø(/j)	*z	*c

Below I am trying to refine the Altaic correspondences for Nostratic sibilants by new materials. The new Nostratic etymologies and the additions to the etymologies of V.M.Ilich-Svitych are made partly within the project "The Tower of Babylon" mostly by S.A. Starostin, G.S.Starostin, V.V.Glumov and me (then they have no special references), partly they are withdrawn from different publications and from the Nostratic dictionary of A.B.Dolgopolsky (to be published); the text of the Dictionary was kindly made available to the members of the project by the author.

The one else problem of the recent state of the Nostratic reconstruction is the problem of vocalic correspondences between PA and other Nostratic languages. Now the PA has a number of rising diphthongs in the first syllable vocalism and these diphthongs find their correspondences in the structure of Nostratic roots only in a part of cases. In my previous publication (Дыбо 2000) it was shown that such "Altaic" diphthongs cause the palatalisation of the initial \*n- (originally non-palatalised) in Uralic. The

<sup>17</sup> As for Dravidian \*š, the materials of the Nostratic database show that it arises in sibilant rows when the Nostratic protoform includes an intervocalic -j- (only two sure cases: Nostr. \*sajVrV 'nit, louse': Alt. \*šajjri; Ur. \*s'aj8r3; Drav. \*šir 'nit' and Nostr. \*SjVwrV 'wife's brother': Drav. \*šēr- (\*-d-) 'husband's brother's wife'; IE \*šjēyur- (~ -ō-, -ā-) 'wife's brother'); in other cases it goes back to a Nostratic palatal affricate (Nostr. \*cVIV 'bark, peel': Alt. \*č'ali; Ur. \*cele; Drav. \*šil-i; Nostr. \*cVwVrV 'salty, sour': Alt. \*čjoberV, FU \*c[uy]rV 'bitter, sour', Kart. \*čar-, Drav. \*sovar, IE \*sūr-; Nostr. \*cwVHV 'to give': Alt. \*čjōge, Kart. ? \*c-, Drav. \*šī-; ? Nostr. \*šVjV 'sheaf, ear of corn': Kart. Georg. zna 'sheaf of corn', Drav. \*sern- ( ? \*sen-r-), IE \*songho- 'sheaf of corn/straw'; ? Nostr. \*šwVHV 'to go, come': Alt. \*ši (~ \*šja); Kartv. \*šeyw- / \*šyw-, Drav. \*šō-).

correspondences of sibilants also appear to be related with the diphthongic vocalism of Altaic cognates.

Altaic diphthong correspondences

PA	PTM	PM	PT	PJ	MKor.
*ja-a	ia (Si)	a	ia, ja [e]	a	ă (Pa, aP)
*ja-e	i	i [a,e]	ia, ja	ə	i [(j)ə]
*ja-i	ia (Si)	i [e]	ia, ja [e]	i	ă [(j)ə]
*ja-o	U	e	ia, ja, pa	a	ă [U]
*ja-u	U	a, U	e, a, Pa	u	U [(j)ə]
*io-a	U	a, U	ia, ja, pa	a	U [ă]
*io-e	U	e, ö	e, a, Pa	ə [u]	U [jə]
*io-i	U	i [e, ö]	ia, ja, pa	i	U [ă]
*io-o	i	ö [ü, U]	o [u]	ə [a]	i, (j)ə
*io-u	ia (Si)	e [i, u]	u [o]	u	ă [u, jə]
*iu-a	U	U [i]	i	a	A
*iu-e	ü, Pu	ö [ü, U]	ü, iR [ö]	u [ə]	(j)A [U]
*iu-i	i (Pu-)	ö [ü, U]	ü [ö]	i	i (i, U)
*iu-o	ü	U	u [o]	u [ə]	(j)A [U]
*iu-u	U	i [U, ü, ö]	i	u	U (i, i)

It appears that the main number of Altaic stems corresponding to the Nostratic stems with \*s- as reconstructed by the scheme of Illich-Svitych contains in the first syllable a non-diphthongic vowel:

Alt. \*s, Nostr \*s

1. Nostr. \*sEmI 'hear': Alt. \*sēmi ( ~ z-) 'caution, attention' EDAL 1230; Ur. (Ug.) \*s/cim(-VI-) (> Khant. šiməs-) 'to be heard'; Kartv. \*sem- 'to hear' ЭСКЯ 164-165; MCCHЯ 366; ND 2069.

2. Nostr. \*VsxV 'blood': Alt. \*sēga 'healthy; blood' EDAL 1224; (?) Ur. \*s'aks'a 'Speck, Griebe, Fett' UEW 458; Kartv. \*zisxL- ЭСКЯ 87 (reduplicated?); IE \*esH-r Pok. 343. MCCHЯ 345.

3. ? Nostr. \*sVbV 'clean': Mong. suba- 'clean'; Ur. FU \*s'ciwa 'sauber' UEW 481; Kartv. Georg. supa 'clean'; IE Hitt. suppi- 'pure'. ND 2010.

4. Nostr. \*sali(k)V 'loose': Alt. \*sal(b)i- 'loose' EDAL 1206; Ur. \*selke- 'be loose' (Itkonen FUF 26); Drav. Tam.-Mal. \*šal-i- 'weak, tired' (DED 2371); MCCHЯ 350.

5. Nostr. \*surV 'herd, drive': Alt. \*sūri 'to go away, drive away' EDAL 1320; Ur. \*sur3 'Herde, Rudel (von Rentieren)' UEW 491; MCCHЯ 367, OCHЯ 1, 200.

6. Nostr. \*sänV 'knee, ankle': Alt. \*sēni EDAL 1230, Дыбо 1989; (?) Ur. \*s/cānc3 (UEW 471; a result of assimilation?).

7. Nostr. \*solV 'separate': Alt. \*salo ( ~ \*z-) 'to be separated' EDAL 1206; Ur. \*sōđa 'to be in heat' (Coll. 58); Drav. \*sal- 'go' DED 2781; MCCHЯ 353.

8. ? Nostr. \*sVlV(mV) 'heart': Alt. [Ewk. seleme<sup>18</sup>]; Ur.\*śiḍä (-m3) (\*śüḍä (-m3)) UEW 477; MCCHЯ 364<sup>19</sup>.
9. Nostr. \*sar- 'song, spell': Alt. \*sarV 'song, feast' EDAL 1218; Ur.\*śarna 'Zauberspruch; Rede, Gespräch' UEW 463; MCCHЯ 342.
10. Nostr. \*sängA- 'fringe, thread': Alt. \*seja ( ~ -o, -u) 'fringe, hair lock' EDAL 1231; Ur. \*säje 'Haar, Haarflechte' (FU; UEW 471); IE \*snēy- 'to spin, to twist a thread' WP II 694.
11. Nostr. \*san(g)U 'smell': Alt. \*sagu(nV) ( ~ z-) 'smoke' EDAL 1210-1211; Ur. \*sagk3 'Geschmack, Geruch; schmecken, riechen' UEW 462; MCCHЯ 342<sup>20</sup>.
12. Nostr. \*sOjwV 'to speak, shout [cf. 176, 621]': Alt. \*sa[jb]o 'sound' EDAL 1197; Ur. \*soje 'Ton, Laut, Stimme; tönen, lauten' UEW 482; IE \*sucei- 'свистеть, звучать' (Pok. 1040-1041) MCCHЯ 337, OCHЯ 1, 38.
13. Nostr. \*sal- 'wooden thing': Alt. \*salkV 'a k. of board, frame' EDAL 1205; Ur. \*salk3 'Stange, Stab, Stecken; Baumstamm' UEW 460; IE \*(s)lat- 'beam, log' WP II 382.
14. Nostr. \*sVtV 'curse, fight': Alt. \*sata 'to ill-treat, betray'<sup>21</sup> EDAL 1270; Ur. \*śota, soḍa od. soḍ'a 'Streit, Kampf, Krieg; streiten, kämpfen' UEW 777; Drav. \*caṭV- 'curse' (DED 150); MCCHЯ 357.
15. Nostr. \*sA/OkV 'to cut, split': Alt. \*sok'e ( ~ -ju-, -k-) 'to split' EDAL 1305 (or \*sak'a 'sharp instrument, to cut, split' EDAL 1203); Ur. FU sakk3 (sukk3) 'Stück, Teil' UEW 457; IE \*sek- 'to cut' WP II 474. ? Drav. NDR \*coX 'to pluck' (DED 2644).
16. Nostr. \*sVrV 'back': Alt. \*sērV 'buttock, to defecate' EDAL 1236; Ur. Perm. \*ś8rV 'behind, back' Лыткин - Гуляев 270; Drav. PKuiKuwi \*sērki 'back of neck' DED 2817 (?+ Tam. eruttu, Mal. erattu) ND 492.
17. ? Nostr. \*sErnV 'a tree (ash-tree?)': Alt. \*s[é]rŋ/ko 'a k. of blossoming bush' EDAL 1235; Ur. FW s/sarne 'eine Art Baum: Esche, Weide' UEW 752; Drav \*sārŋ- 'Shorea robusta' DED 2420.
18. Nostr. \*surV 'to suffer': Alt. \*siru ( ~ -o) 'pain' EDAL 1260; Ur. \*śure 'sterben, trauern' UEW 489, ? Georg. *sur-* 'to wish' [within Kart. \**sur-* 'to sigh'] ЭСКЯ 178; IE ?\*s(w)ergh- 'to be ill, to suffer' WP II 529].
19. Nostr. \*sUwV 'to tie, strap': Alt. \*suba ( ~ -o, -u) 'to tie, bind' EDAL 1311; Ur. \*s'OwV 'Zugriemen' UEW 493. ND 2009.
20. Nostr. \*sam(p)V 'a k. of fish': Alt. \*sa'mV 'a k. of fish' EDAL 1209, Ur. \*s'ampe UEW 462; Drav. SDr. \*Samb-ai 'a k. of fish' DED 2348.

<sup>18</sup> A derivation from PTM \*sele- 'to wake up, to be joyful' > Evk. sele- CCTMЯ 2, 141 is possible.

<sup>19</sup> ? Kart. \*sul- 'spirit, soul, scent' ЭСКЯ 178, EWK 319-320 evidently belongs to the root \*sw- (\*sw-cn- 'to breathe', \*sw-cr- 'breath', \*sur- 'to sigh', Georg. sun- 'smell, odour' ЭСКЯ 174, 178) despite MCCHЯ 364, ND 2238. To Nostr. \*sVwhV 'smell'? See below.

<sup>20</sup> About Kart. \*sw-en- 'to breathe' etc. see above. Cf. also Perm. \*zūg 'smell' Лыткин - Гуляев 108.

<sup>21</sup> Not \*siata as in EDAL, as the Chuv. form *шум* is obviously a Russian loanword (*счет*), meaning 'забота, беспокойство' used in the clauses like *пёр шутсёр нуран* 'жить без забот', literally "без всякого счета, учета".

21. Nostr. \*sAkV 'a k. of fish': Alt. \*sa'k'o 'a k. of fish' EDAL 1203, Ur. \*s'äkä 'eine Fischart (? Wels; ? Silurus glanis)' UEW 469; IE \*sīk-, -g- 'a k. of fish' WP I 363.
22. Nostr. \*sVl[w]V 'a k. of vessel, spoon': Alt. \*se'lbo' ( ~ z-) 'oar, spoon' EDAL 1227, Ur. \*s'ulV 'Gefäß' UEW 488.
23. Nostr. \*sA(r)pV 'thorn, needle' Alt. \*sa(r)p'i ( ~ -e) 'a k. of needle' EDAL 1216, Ur. \*saps'V or s'apsV 'Netznadel; Spule, Weberspule' UEW 432, Drav. \*s/s'ärp- 'thorn' DED 2468, IE \*spēy- (sph-) 'prickle, pointed stick' WP II 652. ND 2097.
24. Nostr. \*sVḡV 'back': Alt. \*so'ṅu 'trace, back, behind' EDAL 1308; Ur. \*s'äṅkV 'der Hintere, Arsch' UEW 472; IE \*son- 'back, spine' Mayr. 3, 457.
25. Nostr. \*sVwV 'wedge, stick': Alt. \*sibo 'wedge, to wedge' EDAL 1239; Ur. \*s'awḡa 'Stab, Stange' UEW 468.
26. Nostr. \*sažV 'to slander, condemn': Alt. \*sa'žV 'to slander, condemn' EDAL 1221; Kartv. \*saž- 'to judge' ЭСКЯ 162.
27. Nostr. \*sabV 'sign, word': Alt. \*sāba 'sign' EDAL 1194; Ur. \*s'VwV > Ug. \*sawV 'Wort, Rede' UEW 885.
28. Nostr. \*saḡV 'to hang down; stand': Alt. \*sanžV ( ~ z-) 'to hang down, lower' EDAL 1209; Ur. \*s'agc'a 'stehen' UEW 431 (there \*s'agc'a, but cf. Sammalahiti, with the supposition of dissimilation in \*s- in Ugric and Komi; otherwise the Saam refl. is not plausible).
29. Nostr. \*sVḡV ( ~ š-) 'sacred place, luck': Alt. \*sa'k'a ( ~ -k-, -o) 'luck in hunting' EDAL 1203; IE \*sak( )- 'sacred' WP II 448.
30. Nostr. \*sarḡV ( ~ s-, š-) 'a k. of tool': Alt. \*sarḡ'a EDAL 1215, IE \*serp- WP II 500.
31. Nostr. \*sogwV 'harm, deceive': Alt. \*sōk'e ( ~ -i) 'to be harmed, deceived' EDAL 1306; Drav. \*sōk- 'to be possessed; devil' DED 2870; IE \*seug- 'to be sad' WP II 472.
32. Nostr. \*sipV ( ~ s-, š-) 'sprinkle': Alt. \*sēpa 'to throw, scatter' EDAL 1231; IE \*seip- 'to sift' WP II 467; ND 2099.
- [33. Nostr. \*sUrV 'large, heavy': Ur. BF \*s/sūre 'big' UEW 779 (but separately from 'corn, grain'); Kartv. \*sur- 'full, wholesome' EWK 305-306; IE \*swēr- 'heavy' WP I 263; ND 2111]
- [34. Nostr. \*sVrV 'night': Kart. \*ser- 'night, evening' EWK 297, Drav. \*sir- '1 black 2 charcoal 3 night' DED 2522, IE sēr- 'late' (if not from IE sē(i) 'langsam/spät kommen, sich hinausziehen') Pok. 891. ND 2112.
35. Nostr. \*siHIV 'slippery, to rub': Alt. \*sīla 'to rub, clean' EDAL 1249; Ur. \*s'cilV 'streicheln, glätten' (Collinder MSFOu 74, Jahnunen 141, Рен.); Kartv. \*sxl- 'to make a swift movement, to glide' (+ \*sxlet-) ЭСКЯ 167; IE \*slēi- 'smooth' WP II 389. MCCHЯ 365, ND 2048.
36. Nostr. \*siwV 'smear': Alt. \*sīpa 'clay, to smear' EDAL 1265; Ur. \*sawe UEW 468 (or \*sojwa UEW 483) 'Ton, Lehm'; Kartv. \*sw- 'to pass over with the hand, to smear' ЭСКЯ 163; MCCHЯ 348.
37. Nostr. \*sVIV 'slime': Alt. \*silV 'saliva' EDAL 1248 (Turk., Mong.); Ur. \*sülke (Coll. 117, UEW 479) 'Speichel, Spucke; speien, spucken'; Kartv. \*slek- 'to lick' ЭСКЯ 164, EWK 303; IE \*sleug- 'to slip, to slip down' WP II 711; MCCHЯ 365.
38. Nostr. \*sepV 'to taste, try': Alt. \*sip'i 'to spy; slander' EDAL 1258; Ur. \*s'eppä

'geschickt' UEW 474; Drav. \*Sav- 'taste' DED 2396; IE \*sa/ep- 'to try, to research' WP II 450. ND 2096.

39. Nostr. \*serV 'top, hill': Alt. \*sira ( ~ -u) 'hill, high mountain' EDAL 1258-1259; Kart. Georg. ser- 'hill', Laz serṭ- 'top of a hill'; IE \*ser- (Hitt. ser 'oben', Gr. rhion 'peak'). ND 2108a.

40. Nostr. \*silV 'to see, inspect': Alt. \*sili ( ~ \*z-, -e) 'to choose, inspect' (Mong. \*sil- 'to choose, to examine, check, select' Less. 701, 702, TM \*sil- 'to choose, to test, to promise, warn, report' CCTMЯ 2, 83, 89, Jap. \*sira(m)pa- 'to investigate, inspect' JLTТ 752); Ur. \*s'ilmä 'Auge' UEW 479 (cf. also Ug. \*silV 'erwerben, verschaffen' UEW 888 < Ur. \*silV). ND 2202.

41. Nostr. \*sidV 'to bind': Alt. \*sido 'tassel, string' EDAL 1240; Ur. \*s'ṣaḍa 'Band, Streifen; binden' UEW 461<sup>22</sup>; Kart. \*(s)t- 'to spin (weave)' ЭСКЯ 172, EWK 312; MCCHЯ 364.

42. Nostr. \*si 'thou': Alt. \*si (pl. \*sU-) EDAL 1237-1238, Kartv. \*si- ЭСКЯ 162-163, EWK 300, IE \*-si ending of the 2d p. OCHЯ I 6.

The rare cases with a diphthong in Altaic in correspondence to Nostr. \*s are the same where the Altaic diphthong can be explained from the combinations of glides and vowels within the Nostr. protoform:

1. Nostr. \*sVjwV 'sew, pierce': Alt. \*sjābi 'to sew, perforate,awl' EDAL 1262; Ur. FP \*suj3 'hineinstecken, strecken' UEW 777 [Ur. \*süje 'Jahresring des Baumes; Faser, Fiber' semantically not here despite ND 2768], Kartv. \*sw- 'to plant, insert' EWK 298-299; IE \*sjū- (\*\*siHw-) 'to sew' WP II 514.

2. Nostr. \*sajVrV 'nit, louse': Alt. \*sjājri EDAL 1263-1264; Ur. FP \*saj8r3 UEW 770; Drav. \*sīr 'nit' DED 2625; MCCHЯ 336.

3. ?? Nostr. \*sVχwV (-γ-) 'sun': Alt. \*sjōgu 'sun; sky' EDAL 1274; Kartv. Georg., Svan. sɣiv- 'ray'; ??IE \*sāuē-l- / \*sāuē-n- 'sun; sky' WP II 446. MCCHЯ 366 (the Alt. -g- is not a sure reflex of Nostr. \*χ).

4. Nostr. \*sVjγwV 'sea, shallow': Alt. \*sjōgu 'shallow, shallow place' EDAL 1274; Ur. \*s/s'iwV 'deep, still water' (BF - obviously to be separated from \*tiwä) UEW 525; Kart. \*zywa- 'sea' (z- is assimilated) ЭСКЯ 89, EWK 147; IE \*sojəw- ? 'sea (Germ.), juice (Balt.)' WP II 464. ND 2027.

The cases with the intervocalic Nostr. \*-s-:

1. Nostr. \*p'isV 'to sprinkle': Alt. \*p'jusi 'to sprinkle' EDAL 1163-1164; Ur. \*p'is/ča- 'tropfen, tröpfeln' UEW 732; Kartv. \*ps- 'to urinate' ЭСКЯ 191, EWK 360-361; Drav. \*pis- 'to sprinkle' DED 4132; MCCHЯ 332, OCHЯ 2, 101-102.

2. Nostr. \*kewsV 'to exhale': Alt. \*k'jūso 'to vomit' EDAL 830; (?) Ur. FU \*kic'nä- 'niesen' (secondary from \*kis'nä-?) UEW 662; Kartv. \*kwes- / kus- 'to moan, sigh' ЭСКЯ 117-118; Drav. \*guS- 'to whisper' DED 1638; IE \*k'wes- 'to pant, to sob' WP I 474.

<sup>22</sup> The Mari form (kit-)šol 'Armband, Armring' is a loan-word from Chuv. *сулз* 'запястье, браслет'; so it does not obstruct the reconstruction of \*-δ-.

3. ? Nostr. \*P<sub>V</sub>sV 'be worn out, naked': Alt. \*p<sub>i</sub>úsa 'to take off, scrape off' EDAL 1163; Ur. \*pus3 'Fetzen; sich zerfetzen, sich fasern' UEW 409; IE \*bhos- 'bare, barefooted' WP II 189. ND 260.
4. Nostr. \*wV<sub>s</sub>V 'be tired': Alt. \*ōse 'to be bad, guilty' EDAL 1065; Ur. FP \*wās'ä 'be tired' UEW 818; Drav. \*vēs- 'weariness' DED 5524. MCCHЯ 370.
5. Nostr. \*tV<sub>s</sub>V 'even(ly), exact(ly)': Alt. \*t'ja'sa 'very' EDAL 1434; Ur. \*taśa 'eben, gleich, gerade' UEW 513; IE BSI \*teis- 'right, comfortable' Fraenkel 1073.
- [6. Nostr. \*mUsV 'to cover, conceal': Kart. \*mos- 'to cover, to dress' EWK 244; Drav. \*mujS- 'to cover' DED 4915; IE \*meus- 'steal, conceal' Mayr. II 658-9. ND 1487.
7. Nostr. \*ʔomsV meat: Alt. \*usu ( ~ o-, -i) 'animal; cow' DED 1505; Ur. \*omsa (Setälä JSFOu 30, 57); Drav. \*ün[c] ?? 'flesh, meat' DED 728; IE \*mēms-'meat' WP II 262. MCCHЯ 350, OCHЯ 1, 252-253.
8. ? Nostr. \*n/ñESV 'luck': Alt. \*ńesa 'luck' EDAL 1008-1009; Drav. SDR \*nac- 'to desire' (DED 3576); IE \*nes- 'счастъе' (WP II 334). Дыбо 2000.
9. ? Nostr. \*nAsV 'sorrow': Alt. \*nasa 'grief, pity' EDAL 963; Drav. SDR \*nac- 'worry, trouble' (DED 3577); Дыбо 2000.
10. Nostr. \*mUc'V ( ~ -s-) 'smile': Alt. \*m<sub>i</sub>usu ( ~ -a, \*m<sub>i</sub>osi) 'to smile' EDAL 937; Ur. \*mus'V 'lächeln' UEW 872; Drav. \*mus- 'to smile' DED 4904.
11. Nostr. \*mAsxV 'a k. of fruit': Alt. \*mesV 'wild apple, grape' EDAL 915; Kart. \*msxal- 'pear' ЭСКЯ 137, EWK 244-245; IE \*(a)masl- 'apple' Старостин 1988, 126.
- [12. Nostr. \*IV<sub>s</sub>V ( ~ -z-, -3-) 'to gather; to order': Ur. FP \*lās'ä- 'ordnen, bereiten; machen' UEW 687; IE \*les- 'to gather' WP II 440].
- [13. Nostr. \*kV<sub>s</sub>(w)V 'to kindle, dry': Ur. \*kus'ka (\*kos'ka) 'trocken; trocken werden' UEW 223; Kart. \*kwes- 'to strike out fire' EWK 199 (cf. a different reconstruction in ЭСКЯ 111); Drav. NDr \*kos- 'to burn' DED 2042; IE \*ksē- 'to burn, to dry' WP I 503. ND 1209].

The cases with irregular correspondences due to secondary assimilations:

1. Nostr. \*sač- 'wild herd': Alt. \*sesi 'deer, wild animal' EDAL 1237; Ur. (FW) čáč3 'Herde' UEW 611.
2. Nostr. \*sYñčV 'biting insect': Alt. ?\*sarču ( ~ \*š-) 'locust, dragon-fly' EDAL 1213-1214; Ur. \*conča ~ \*čoča 'Floh' UEW 39; Kartv. \*žinčw- 'ant' ЭСКЯ 269, EWK 573-574. MCCHЯ 350.

To the contrary to the previous set of examples with Nostr. \*s-, it appears that the main number of Altaic stems corresponding to the Nostratic stems with \*s- reconstructed by the scheme of Illich-Svitych contain in the first syllable a diphthongic vowel:

Alt. \*s, Nostr. \*ś

1. Nostr. \*sUmV 'moisture': Alt. \*śiomi ( ~ z-) 'wet snow, hoar-frost' EDAL 1279; Ur. FW \*sume 'Nebel' UEW 767<sup>23</sup>; Kartv. \*sim- 'damp, liquid (n.)' EWK 317<sup>24</sup>; Drav. SDR

<sup>23</sup> The presupposed in the Nostratic database relation of the Ur. root with Alt. \*śamu 'tar, soot, fumigation' EDAL 1208 is incorrect because the Alt. root itself rather does not exist: Turc.



\*Sim- 'moisture; cold' DED 2539.

2. Nostr. \*sOnkV- 'to sink': Alt. \*s[ju]ŋu 'to sink' EDAL 1295; Ur. \*soge- 'hineingehen, eindringen' UEW 446, 765; Drav. ? KG \*sōŋ- (DED 2876, if not to \*kōŋl- 'to enter'); IE \*seng<sup>w</sup>- 'to sink, to drown' WP II 495. MCCHЯ 357.

3. Nostr. \*suwV 'liquid': Alt. \*sju<sup>a</sup>ba 'water' EDAL 1285-1286; Kartv. \*św- 'to drink' ЭСКЯ 173-174, EWK 313; IE \*seu(H)- 'жидкость, лить' (Pok. 912-913). MCCHЯ 341.

4. Nostr. \*sOtV 'behind, buttock': Alt. \*sjoti (~ \*z-) 'behind, bottom' EDAL 1274; Ur. Perm. sitan 'buttocks' UEW 444; Drav. SDR \*Sūt- 'anus' DED 2724; (?) IE \*sed- 'to sit' WP II 483.

5. Nostr. \*sVχV 'get, obtain': Alt. \*sogu / \*sjugu 'to search, choose' EDAL 1303-1304; Ur. \*sāye (Coll. 54) 'get, receive; come, arrive; become'; ? Kart. \*sx- 'to sit or to hang in multitude' ЭСКЯ 178, EWK 321; IE \*seg'he-, \*sg'hē- 'to hold' WP II 481. MCCHЯ 356.

6. Nostr. \*sCV-: Alt. \*sjuču 'diarrhoea' EDAL 1287; Ur. \*sitta 'Dreck' UEW 444.

7. Nostr. \*sčiwɫ- 'milk product/sweat': Alt. \*sjūt'i (~ -t-) 'milk, sweat, water after washing rice' EDAL 1300; Ur. \*s8t3 'Fett, Talg (des Rentiers)' UEW 453; Kartv. \*čwet- 'drop' ЭСКЯ 250, EWK 524; Drav. \*Coɫ- 'drop' DED 2835; IE \*swid- 'sweat' WP II 521 / ksweid- 'milk product' WP II 521. Obviously two contaminated roots.

8. Nostr. \*sATU (?) 'to throw out': Alt. \*sjutu 'to throw out, push out' EDAL 1299<sup>25</sup>; Ur. \*sätV/\*šätV '(aus dem Topf, Kessel) schöpfen; herausnehmen' UEW 437, Drav. \*saɫuv- 'ladle' DED 2309.

9. Nostr. \*son/H/V 'sinew': Alt. \*sjogre 'vertebra, spine ramification' EDAL 1281; Ur. \*se<sup>ne</sup> (\*sōne) 'Ader; Sehne' UEW 441; IE \*senew-, \*snēw- <PIH \*sH-> - 'tendon' WP II 696. MCCHЯ 341.

Nostr. \*sVjV 'rotten, sour': Alt. \*sjuju 'sour' EDAL 1314; Ur. \*säje 'Eiter, Fäulnis; eiern, verfaulen' UEW 434. MCCHЯ 336

10. Nostr. \*sVpV: Alt. \*sjōp'i 'thorn, thorny bush' EDAL 1282; Ur. FP \*sup3-r3

\*samala 'tar' is a Russian loanword, TM \*sompj- 'fumigation, to fumigate' derives from TM \*saŋ-n'an 'smoke' ((<sup><</sup> \*saŋ-mī; phonetically cf. TM \*n'aŋ-n'a 'clear sky' and \*n'aŋ-ma- (> \*n'ampa-) 'to become clear (of sky); to appear (of hoar-frost)' (CCTMЯ 1, 632, 633); about the TM suffix -mī- see Василевич 773, Benzing 117, 121). The Jap. \*su'mi 'charcoal, ink' should be related with Alt. \*sjumi (in that case \*sjumu) 'dark, obscure' EDAL 1290 (the phonetic problems can be eliminated by the elimination of Turc. \*süm 'dark' presented by Chuv. sə<sup>w</sup>m 'darkness' which is evidently borrowed from Mari šim, šem 'dark, black' belonging to Ur. \*simV 'dark', see below.

<sup>24</sup> Despite of the Nostratic database, semantically not to Nostr. \*swem[H]V 'to swallow' (see below).

<sup>25</sup> The Altaic cognate suggested in the Nostratic database, \*sōdV (~ z-, -ū-) 'to scoop' EDAL 1301 shall be revised, while only the Korean form \*stī- 'to scoop' exists evidently; the PTM form reconstructed as \*sōda (CCTMЯ 2, 104) is false: Nanai sōdō 'scoop-net' goes back to \*soko-da, a noun derived from \*soko- 'to scoop' CCTMЯ 2, 105; Manch. šodo- 'to scoop', with a derivative šodoqu 'scoop-net', is either a loanword from Nanai or goes back to something like \*soki-da-.

'Stange mit kurz behauenen Osten' UEW 768.

11. Nostr. \*sUmI 'dark, to smoke': Alt. \*sĭumu 'dark, obscure' EDAL 1290; Ur. FP \*sim3 'schwarz; Rost; rosten, rostig werden' UEW 758, IE \*smüg-, \*smügh- 'to smoke' WP II 688.

12. Nostr. \*sawgV 'smell': Alt. \*siabgu (~ \*u-a) 'steam, odour'<sup>26</sup> EDAL 1311; Ur. FW \*sawe 'Rauch' UEW 754; IE \*sweg- 'to smell' WP II 521.

13. Nostr. \*s(w)Uq-: Alt. \*sĭũ[k]i (~ \*š-) 'pheasant' EDAL 1289; Ur. \*s8kć3 Auerhahn; Tetrao urogallus (assimilated to \*s8kć3 in Saam. and to \*ć8kć3 in Komi) UEW 780; ? Kartv. \*čqar- 'quail' (assimilation, < \*sqar-?) ЭСКЯ 252-253, EWK 533-534..

14. Nostr. \*sarV 'to break, demolish': Alt. \*s(i)aru 'to be worn out, torn' EDAL 1217, Ur. \*särV 'brechen' UEW 756, Kart. \*s'ar- / \*s'r- 'to destroy' ЭСКЯ 177-178, EWK 311-312. Bomhard 1996, 163.

15. Nostr. \*sVbV 'stick, pole': Alt. \*sjābo 'a k. of stick, pole' EDAL 1263; Ur. \*sowV(-nV) 'Pfahl, Stange' UEW 767.

16. Nostr. \*sOnV 'to wish, yearn': Alt. \*sjān'i 'to be distressed, think with sadness' EDAL 1267; Ur. \*soje 'wünschen, wollen' UEW 447; IE \*sēy- 'to aim, reach' WP II 459.

17. Nostr. \*sosV 'to wash': Alt. \*sjōsu 'to scoop; to wash' EDAL 1284; Ur. \*sOsV 'naß werden' UEW 452, 845.

(Or Nostr. \*sVCV 'to wash, clean': Alt. \*sjōsu 'to scoop; to wash' EDAL 1284; Ur. \*sicV (\*sücV) 'rein' UEW 441).

18. Nostr. \*sVlV 'quick, keen': Alt. \*sjōlu 'easy, quick, smart' EDAL 1278; Ur. \*siōV 'Eile, Streben, Bestreben; schnell, eifrig, emsig' UEW 442.

19. ? Nostr. \*sVnV 'to know, think': Alt. \*sjuna 'to hear, observe' EDAL 1291; Ur. \*s/\*sana- 'think, speak' SKES 964-5, Mar. šonaš 'to think over'; Drav. SDR \*sanc- 'manner, plan, stratagem' DED 2293; IE (\*sen-t-, \*senə-) + \*snew- 'denken, Gesinn' WP II 323. МСЧЯ 339, ND 2203.

20. ? Nostr. \*sun(d)V 'to dry up, extinguish': Alt. \*sjūni 'fade, extinguish' EDAL 1292; Drav. SDR \*sunḍ- 'to evaporate' DED 2662; IE \*swendh- 'to disappear' WP II 526. МСЧЯ 367.

21. ? Nostr. \*suḡ- 'to sound': Alt. \*sjūḡu 'to whine, weep' EDAL 1295; IE \*swen- 'to sound' WP II 524.

22. ? Nostr. \*sVnV 'single; apart, asunder': Alt. \*sjo'na 'one, single' EDAL 1280; IE \*san- / \*sen- 'apart, without' WP II 494. ND 2077.

23. ? Nostr. \*sākV 'to think, to search': Alt. \*sjāka 'to think, worry'<sup>27</sup> EDAL 1265; IE \*sāg(-) 'to track, to search' WP II 449.

[24. Nostr. \*s(w)VkV? 'thick': Ur. FP \*sakV UEW 750; Kart. Georg. suk- 'thick; fat' ND 2040].

[25. ??? Nostr. \*sVHrV or \*šVHrV 'hair': Alt. (Mong. sojir 'coarse long hair which projects from the fur' Lessing 724 lacks in other sources, but there exists Mong. sor with

<sup>26</sup> The reconstruction of a diphthong, if in Turkic \*sogul- is secondary from \*sabgul-.

<sup>27</sup> Not -k'-, despite EDAL, cf. a regular sonorization in Kypchak Turkic, see СИГТЯ 2005, 125-127.

the same meaning: barb of fur, of grass, see BAMPC 3, 114); Ur. (Ug.) \*šäyV-rV ~ \*šäkrV or Ur. \*šäyV-rV ~ \*šäkrV 'Haar' UEW 886; Drav. GK \*sōṛ- 'hair (in beard)' DED 2894. ND 2228.

In some cases the vowel in PAlt. is \*i, not a diphthong, what also may reflect the palatalising effect of the first consonant:

26. Nostr. \*sidV: Alt. \*sidi ( ~ š-) 'to suspend' EDAL 1240; Ur. \*sit3- 'binden, befestigen' UEW 762.

27. Nostr. \*suki 'autumn': Alt. \*sigi 'rain'; Ur. \*sükse 'Herbst' (assimilated to \*sükse in Saam. and Khanty) UEW 443; Drav. SDR \*sugi 'harvest time' DED 2176; Tyler 8 (U-D), MCCЯ 370.

28. Nostr. \*siKV 'interval': Alt. \*siga 'border, interval' EDAL 1241; Ur. \*seka 'Zwischenraum, Mitte, Inneres' UEW 438; IE \*seg(w)h- 'to reach' WP II 482.

29. Nostr. \*sVdV 'bark, to peel': Alt. \*sidu ( ~ -o, -a) 'to rub off, peel off' EDAL 1241; Ur. \*soδV 'Baumrinde' UEW 763.

30. Nostr. \*sVbV 'salt, bitter': Alt. \*sibi 'bitter, bitter plant' EDAL 1238; Ur. ? \*säppä 'Galle' UEW 435; Drav. \*sup- 'salt' DED 2674, ND 108a (after Blazhek DA).

31. ? Nostr. \*sV '3d person pronoun': Alt. \*sV ( ~ \*š-) 'this, that (3d pers. pronoun)' EDAL 1320-1321, Ur. \*se 'er, sie, es' UEW 453; Kart. \*s- 'this, that' ЭСКЯ 173, EWK 310; IE \*so-, \*swe- WP II 509. ND 2006.

32. ? Nostr. \*sVTV 'bridge, ladder': Alt. \*sit'o 'ladder, framed wall' EDAL 1262<sup>28</sup>; Ur.

<sup>28</sup> Despite EDAL, the Mong. forms (Written Mong. *ṭatu(n)* (Less. 754), Middle Mong. *ṭatu* (MA 407), Khalkha *ṭat(an)*, Bur. *ṭata*, Kalm. *ṣatə*, Ordos *ṭatu*, Shira Yuygu *ṣātə*, KWb 351, MGCD 710) should be excluded from the Altaic etymology (TM \*sitk 'wall of tent' CCTMЯ 2, 99, Korean \*satāri 'ladder' Nam 282, KED 870, Jap. \*sitami 'blinds, shutter' JLTТ 528, see Ram.SKE 217). The reasons are as follows: 1) The reconstruction of a common phonetical prototype for all Mongolian forms is impossible: such prototype should give an occasion for *a*-breaking in the first syllable and in the same time for the brief *u* in the second syllable (what is well-established by the Middle Mong. and the Ordos); but \*situa should give Modern Mongolian \*foto (cf. \*ninua 'wolf' > \*nono), and \*sitaru should give Modern Mongolian \*futuu (cf. \*sibarun 'bird' > \*fuvuu). 2) We have a set of Middle Age Turkic forms meaning 'ladder': Old Uigur Manichean, Xakani *ṭatu* (QB), Chagatai *ṭatu* (Sangl.) regarded as Mongolian loanwords in EDAL, but in any case the presupposition of a Mongolian loanword in an Uigur Manichean text is forced; rather the Old Uigur word was borrowed in Mongolian where it is fixed relatively late (cf. Doerfer TMN 3, 317). Modern Turkic languages have Tuvian *čada* (from Buriat) and Modern Uigur *ṣaty/ü* (rather a later Mongolism, cf. the lack of the "Uigur Umlaut" or of the regressive labialisation on the first vowel). As supposed in EDT 867, the Turkic word was borrowed from a Middle Iranian form of an eastern type, \*ṭatu < \*ṭrita;F (\*ṭr- > \*ṭ in Khotanese Saka, Sogdian, Pashto, > s- in Ossetic; -u from an accusative? Cf. Saka, Sogdian). The traces of the source of borrowing in the Iranian languages are: late Saka *ṭakye* from \*ṭatV-ka Bailey 406, 511 as a gloss to Turk. *catta* [ṭatu, ṭatū]; in the "Book of Zambasta" a prefixal derivate: *bu; Fs;p s;p ṭta f.* < \*abi-ṭrita;F. Cf. Pashto *ṭpṭṭi* < ṭrita;F

\*sejtV (if not < Ilr. \*saitu- 'Band, Fessel; Brücke', see WP II 463) UEW 758.

[33. Nostr. \*sVtVmV 'ear, hear': Kart. \*s'tum- 'ear' ЭСКЯ 170 (\*(s)a-stun-al-), EWK 315; IE Hitt. istamass- 'hear', istamana- 'ear' ND 2133].

Some possible exceptions of the proposed rule are the following Ural-Altaic cognates:

1. Nostr. \*s/sagU 'a coniferous tree': Alt. \*sagu 'a k. of coniferous tree' EDAL 1196; Ur. \*soksV (\*saksV, \*seksV) 'Zierbelkiefer; Pinus cembra' (perhaps, an assimilation in Ur.? Then Nostr. \*sagU) UEW 445.

2. Nostr. \*s/sabV 'a k. of fish': Alt. \*sabi 'a k. of big fish' EDAL 1194; Ur. \*säwnä 'eine Fischart' UEW 437.

3. Nostr. \*s/sAr'V 'a k. of fish', 'a snake?': Alt. (?) \*sār'o(-gV) 'a k. of big fish' EDAL 1220<sup>29</sup>; Ur. \*särkä 'eine Fischart, ? Leuciscus rutilus; ? Acerina cernua' UEW 436. Maybe, a palatal dissimilation in Altaic? [Drav. \*sarac- 'snake' DED 2359; IE \*serpe- 'to creep, snake' WP II 502].

4. Nostr. \*s/sVm(p)V 'stick, piece of wood': Alt. \*sume ( ~ z-) 'cross-beam; tinder' EDAL 1318; Ur. FP \*sompä 'Stock, Stab' UEW 764.

The cases of the intervocalic Nostr. -\*s- do not have the previously shown effect, while the diphthongs in Altaic appear only in the first syllables of stems.

1. Nostr. \*gUsV-: Alt. \*gusa 'elder male relative' EDAL 575; Ur. koska 'eine ältere Verwandte: Grossmutter, Tante, ältere Schwester (?mütterlicherseits)' UEW 189; Kartv. \*kwis- 'brother-in-law (свояк)' ЭСКЯ 198, EWK 377-378.

2. ?Nostr. \*Hase 'to burn': Alt. \*ase ( ~ \*p'-) 'to catch fire; hot' EDAL 316; Ur. \*äsV 'heizen; sehr heiss, sehr warm sein' UEW 27; Kartv. Svan. -V:šw- 'to ignite'; Drav. \*es- 'to shine' DED 778; IE \*Has- 'to burn, to dry; hearth; ashes' Tischler 196-197; Adams 57-58; WH 1, 65. OCHЯ 1, 262-263, MCCHЯ 352, ND 87.

3. ?Nostr. \*kVsV 'nut, acorn': Alt. \*k'usa 'cedar, oak' EDAL 857; Ur. \*kowse 'Fichte' UEW 222; IE \*kos-al- 'nut' WP 1, 464. Дыбо 1989 (1986). (Or otherwise, see below).

4. Nostr. \*qisV 'to take care of, honour': Alt. \*ēs[i] 'to take care of' EDAL 521; Ur. \*eskV 'believe' UEW 76; Kart. \*qs- 'to remember' ЭСКЯ 267, EWK 568; IE \*ais-

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'ladder', Yazguliam x;*Nad* < *Ārita*; *F*, Ossetic *asind* 'ladder' < \**a*; *F-Ārin-*, *ses* 'wall' < \**Āraitā*, Yidgha *afsinro* 'ladder' < \**abi-Ārinaka*. Bailey 300, Абæв 176, 3 113il14.

<sup>29</sup> Despite EDAL, the Mongolian form, \*siröge 'ruff (fish)', shall be excluded from the Altaic etymology as a non-existent one. Its reflex is attested only in Kalm. šörgə zayəsn KWb 366 and this form is evidently borrowed finally from FW, see UEW 436. The intermediate source of the borrowing is one of Volga Turkic dialects like Bashkirian dial. BDS (Urta) širkal 'подкаменщик (a small fish alike to ruff, Cottus Gobio)', sör-lək 'pickerel', (Mayes) serkə 'ruff' (cf. Mordovian ser'ge (E), s'är'gä (M) 'Rotaugé; Cyprinus rutilus'), (Dim) šürəgge, (Dim, Mayes) šürət 'pickerel' (cf. Mari šereṅyə (U), s'erenyə (M) 'Rotaugé; Leuciscus rutilus', šereṅyə (B) 'Plötze'; the form šürət may be explained by Russian *шуренок*, Pl. *шурята* 'pickerel' - finally also from Mari). The cited in the same place of EDAL Shor šarayan, supposingly borrowed from an unattested Mong. \*sirayan, is probably a Mongolism of another origine, cf. Tatar čurayai, Kazakh šorayatai < Mong. \*čurukai 'pike' KWb 434.

\*aiz-d- <PIH \*isHo-s> 'to honour, to revere; respect' WP I 13.

5. Nostr. \*kesV 'order, to order': Alt. \*kesu 'thing, sort, order' EDAL 673; Ur. FP kāske- 'befehlen, gebieten' UEW 653.

6. Nostr. \*PVsV 'to hide, remain': Alt. \*bjuśi (~ p-) 'to hide' EDAL 364; Ur. FW \*pise 'bleiben, verbleiben, steckenbleiben' UEW 732.

7. Nostr. \*gewsV 'to wish, choose': Alt. \*k'jūse 'to wish' EDAL 829; Ur. FU \*kEsV 'willig, bereit' (not \*kE V, despite Redei, cf. Saam. L -sj-, Hung. -sz, normally in UEW Ur. \*- - > Saam. L -tj-, as in Collinder CompGr 92-95) UEW 229; ? Drav. \*kuSar- 'to desire, wish; bonus' DED 2232; IE \*g'eus- 'to choose' WP I 568.

8. Nostr. \*pusKV 'to kick, push': Alt. \*p'ūske 'to kick, knock' EDAL 1190; Ur. FU \*puske 'stechen, stossen' UEW 408.

9. (?) Nostr. \*dVsV 'roof cover': Alt. \*dāsi 'a flat cover' EDAL 465-466; Ur. \*tisV 'Zeltdecke aus Birkenrinde' UEW 525<sup>30</sup>.

[10. Nostr. \*wVsV (~ -z-) 'price': Ur. \*wosa 'Ware, Handel' UEW 585; IE \*wosn- 'price' WP I 311. ND 114].

The case with an irregular correspondence due to secondary assimilation:

1. Nostr. \*siʒO- 'small animal': Alt. \*sjuʒakV 'rat' EDAL 1300-1301; Ur. šāškā 'Otter, Lutra' UEW 498; Kartv. \*cic(a) 'wild cat'; (?) Drav. \*suCV: Tam.-Kan. ucci 'dog' DED 580; (?) IE \*k'as- 'hare' WP I 357 (from \*sk'as-, with metathesis?).

? [2. Nostr. \*sušV 'dry': Ur. Ug. \*[s/š]usV 'trocknen' UEW 844; Kartv. \*suš- 'to bake, roast, dry' EWK 433; IE \*saus- 'dry' WP II 447 f; Fraenkel 946. MCCЯ 367].

3. Nostr. \*sEčqV- 'to press': Alt. \*č'ēč'i 'to press, squeeze' EDAL 420; Ur. \*sāce (sece) 'Handvoll, die hohle Hand' UEW 754; Kartv. \*čqčq- 'to press' EWK 515, \*čēčq- 'to press, squeeze' ЭСКЯ 255, EWK 538-539.

As A.B.Dolgopolski suggests in his book [1998], Alt. \*š reveals no separate prototypes in Nostr. Namely, Alt. \*š corresponds with all three types of Nostr. sibilants and moreover, in the cases when it corresponds to Nostr. \*s, it demonstrates a diphthong in Proto-Altaic. So, it can be that it is a remnant of a different sibilant row, and, traditionally for the last additions to the Nostratic consonant rows, I reconstruct it as the row of labialized sibilants<sup>31</sup>.

Alt. \*š, Nostr. \*sw

1. Nostr. \*swAr- 'lattice': Alt. \*šeru 'lattice, cross-bars' EDAL 1327; Ur. FP \*sarja 'Latte, Stange' UEW 770; Kart. Georg. sar- 'stake, vine-prop'; SDr \*sār- 'scaffold' DED

<sup>30</sup> The Ur. cognate represents a problem: the embarrassing similarity of Komi tiska, tisa 'tent cover made of birch bark' and Samoyed \*tet/\*tēt id. (Janh. 158) with TM \*tujksa, NorthTM \*tiksa id. < Alt. \*t'ju'go 'cover' EDAL 1441. Could not it be an old loanword? Cf., however, Аникин 547 and cit. lit.

<sup>31</sup> About newly reconstructed rows of labialised stops in Nostr. see Starostin 2002. It is not exactly clear for me, how the labialized sibilants are reflected in IE and Kartvelian; in some cases it is a Sw-, in some cases a pure S-. The problem needs an additional investigation.

2463; IE \*swer- 'stick (thin, long)' WP II 528.

2. Nostr. \*swange 'clear': Alt. \*šāṇu 'clear, light' EDAL 1324; Ur. \*śāge > Ug. sāge 'hell, licht, clar' UEW 887.

[3. Nostr. \*swer- 'row': Ur. \*serV 'Reihe, Ordnung' UEW 475; Kart. \*swer- 'row' EWK 299-300; Drav. SDr. \*sur-i- 'to string' DED 2685].

4. Nostr. \*swIr- 'a little bird': Alt. \*šerčū 'sparrow' EDAL 1326; Kartv. \*sir- 'маленькая птица, воробей' EWK 301; SDr. \*Sīral- 'kingfisher' DED 2551.

[5. Nostr. \*swVpV ( ~ c'w-, sw-, č'w-, šw-) 'spot, freckle': Alt. \*šop'é 'freckles, spots' EDAL 1344; Drv. SDr. \*Sibb- 'a k. of spot on the body' DED 2536].

6. ? Nostr. \*swal- 'a luminary': Alt. \*šāḷpu 'a celestial body' EDAL 1323; Ur. \*śala 'Blitz' UEW 459; ?? Kartv. \*çel- 'year' ЭСКЯ 242-243, EWK 498-499; IE \*sāwel- 'sun' WP II 446.

7. Nostr. \*swxejpV 'to sweep': Alt. \*šip'V 'to sweep' EDAL 1329; ? Ur. \*s/šejpā 'Schwanz (nicht bei Vögeln)' UEW 438; Kartv. \*sxwep- 'to make a swift movement' ЭСКЯ 166, EWK 307-308; Drav. \*seip- 'broom; to sweep' DED 2599; IE \*swēpə-, \*sweip- 'to sweep, to throw' (WP II 524, Pok. 1042). MCCHЯ 348.

8. Nostr. \*swem[H]V 'to swallow': Alt. \*šīmi 'to suck, soak' EDAL 1328; Ur. \*śēme 'Trunk, Schluck; trinken, schlucken'; Drav. \*sam- 'to kill, consume, destroy' DED 2343. MCCHЯ 335.

9. Nostr. \*swVgKV 'clear, light': Alt. \*šāṇu 'clear, light' EDAL 1324; Ur. \*śVgV (> Ug. \*sājV) 'hell, licht, klar' UEW 887.

[10. Nostr. \*swVrV 'to laugh': Ur. FP \*s'erV (\*s'ärV) 'lachen' UEW 773; IE \*swerd- 'to laugh' WP II 517].

The cases with Altaic diphthongs motivated by Nostratic glides:

11. Nostr. \*swajmV 'marsh': Alt. \*š[ja]mi 'island; forest' EDAL 1332-1333; Ur. FU \*śajm3 'Vertiefung, Senkung (mit einem Teich od. Bach)' UEW 457.

12. Nostr. \*swajmV 'a k. of vessel': Alt. \*šjāmu 'sack, wooden vessel' EDAL 1333; Ur. \*śajma 'aus Holz ausgehöhltes Gefäß; Boot' UEW 456.

Alt. \*š, Nostr. \*św

1. Nostr. \*śwOIV 'juice': Alt. \*šjōli 'juice in meat, bouillon'; Ur. \*sula 'geschmolzen, aufgetaut; schmelzen, tauen' UEW 450, (?) FP \*sülV 'fat, bouillon' UEW 758; (?) Kartv. \*swel- 'wet, to be wet' ЭСКЯ 174; Drav. \*Sa|- 'buttermilk' DED 2411; IE \*sül- 'thick liquid' WP II 468. MCCHЯ 333; ND 2055.

2. Nostr. \*śwErV 'to rub, smear': Alt. \*šjūr[e] 'to rub, polish' EDAL 1341; Ur. FP \*sür3- 'schmieren, streichen' UEW 761; Kartv. \*ser- 'to whet' EWK 312-313; Drav. \*savar- 'to rub in, apply' DED 2389.

3. Nostr. \*śwVdwV 'soot': Alt. \*šjāt'i 'to set fire, burn' EDAL 1333; Ur. FP \*sEtV 'Russ' UEW 769; IE \*sōd- 'soot' (if not to \*sed- 'to sit') WP II 483.

4. Nostr. \*śwarO 'pole': Alt. \*šjōri ( ~ \*šjāro) 'stake, pole' EDAL 1338; Drav. SDr. \*Sūr-i- 'a k. of stake or wall-plate' DED 2737; (?) IE \*swer- 'stick (thin, long)' WP II 528.

5. Nostr. \*śwaw- 'gills': Alt. \*šjōbi 'wrinkle, gills' EDAL 1334; Ur. FW \*s/śawta 'Kieme; Lunge' UEW 754; (?) SDr. \*Savaḍ-i 'a k. of neck ornament' DED 2385.

6. Nostr. \*swVķV 'blind': Alt. \*šjāk'u 'to see badly, have bad eyesight' EDAL 1331; Ur. \*s/sok(k)a- 'blind' (BF: Donner 168-169, Kettunen 376). MCCHЯ 365; ND 2034.
7. Nostr. \*swEjpV 'to twist': Alt. \*šjūpo 'to twist, twisted threads' EDAL 1340; IE \*(s)weip-, -b- 'to twist, to wind round' WP I 240.
8. Nostr. \*swEīV 'flesh, fat': Alt. \*šjāli 'muscles of limbs, meat' EDAL 1332; Ur. FP \*siw3-1'3 'Fleisch' UEW 763; Drav. \*Cīla- (in Ka, Tel cīla-maṇḍe 'ankle' [the second part is 'knee' DED 4677]) DED 2633; (?) IE \*selp- 'butter' WP II 508. Дыбо 1989, 1996 (Alt.-Drav.), ND 2194
9. Nostr. \*swVgV (-H-) 'cold, cool': Alt. \*šjogo 'cold' EDAL 1336; Ur. FP \*sojV 'kalt, kühl' UEW 763.
- [10. Nostr. \*swējV 'to sniff, sigh': ? Alt. [Cf. Mong. siṅsi- 'to sniff']; Ur.: Perm. \*su/ūjV 'smell' UEW 462, Лыткин - Гуляев 108; Kartv. \*swen- 'to breathe, sigh, rest' ЭСКЯ 174, EWK 313-314; Drav. SDr \*sēṅk- 'to pant; asthma' DED 2804. ND 2080]

Non-initial position:

1. (?) Nostr. \*ķVwsV 'nut, acorn': Alt. \*kušu 'nut' EDAL 748; Ur. \*kowse 'Fichte' UEW 222; [IE \*kos-al- 'nut' WP I 464]. Dybo 1989 (1986) (Bad correspondence of the IE and Alt. initial consonants! Or otherwise, see above).

The cases with irregular correspondences due to secondary assimilations:

1. Nostr. \*swVčqV 'be born; young of animals': Alt. \*šjōč'ko 'young of domestic animals' EDAL 1335; Ur. \*šačV 'geboren werden, entstehen, hervordachsen' UEW 52 (there \*čačV ~ \*čančV, but cf. Mord. šačo-, čačo- (E), šačo- (M); the North Samoyed forms shall be excluded); Kartv. Georg. čičqina 'young fish, fry'. ND 415 (\*čVčχ/γV).
2. Nostr. \*swAčī 'thread, rope': Alt. \*šja'č'i 'rope, fabric' EDAL 1331; Ur. FU \*sāc'V (\*sec'V) 'feine (Hanf- od. Flachs-) Faser' UEW 433; Kartv. \*č'ec'- 'to comb the wool, to string'.
3. (?) Nostr. \*swV(n)čV 'feather, down, hair': Alt. \*šjo'če 'hair (of head), feather' EDAL 1335; Kartv. Georg. činčl- 'down feathers'.
4. Nostr. \*swVj'wV 'soup, gruel-like liquid': Alt. \*ša'ču 'a k. of soup' EDAL 1322; Ur. \*sose (\*sase) 'Schneebrei; schwammig, porös (Knochen, Baum)' UEW 766 (cf. also FP \*sāsV 'weich, porös (Knochen, Knorpel); Knochenmark, Schneebrei' UEW 756); Kart. (s')j'c- 'milk' ЭСКЯ 172-173, EWK 320-32.

Alt. \*š, Nostr. \*šw

1. Nostr. \*šwerV- 'to dry': Alt. \*šero 'to bake, boil' EDAL 1326; Ur. šorwa- 'trocknen, trocken werden' UEW 502; Kart. \*šwer- / šwr- 'to be dry' ЭСКЯ 216, EWK 428; Drav. SDr. \*Seṛ- 'fertile; to flourish' DED 2789; (?) IE \*swer- 'to discharge pus (ab. wound)' WP II 529. MCCHЯ 366-367.
2. Nostr. \*šwedrV- 'to remain, to hang': Alt. \*š/sidi-r- 'to suspend' (probably with a causative formant) EDAL 1240; Kart. \*šwed- 'to remain'; IE \*swedh- 'custom, habit; to be in the habit' WP II 454.
3. ? Nostr. \*šwVλV 'swelling, lung': Alt. \*šīlč'u 'to swell' EDAL 429 (despite EDAL we shall reconstruct \*š and assimilation by the archaic suffix in Mong. and TM); Ur. FP



\*šodV 'Kiemen (der Fische), Fischblase; Lunge' UEW 786.

Cf. also

1. Nostr. \*s/šwiķV 'to urinate': Alt. \*šīk'i / \*šīk'-di 'urine, to urinate' EDAL 1327; IE \*seik- 'to urinate' Фасмер 3, 815-816.

2. ? Nostr. \*swokU 'juice, ferment': Alt. \*šjōgV 'juice' EDAL 1336; IE \*sukw-, \*soukw- WP II 515. МСЧЯ 366.

But:

1. ? Nostr. \*śwakV: Alt. \*sage' 'to cry, shout' EDAL 1196; IE \*swāgh-/swōg-/sOug- 'to shout' WP I 215.

Alt \*s, Nostr. \*š

1. Nostr. \*šUwV 'good': Alt. \*sū 'well, very, extremely' EDAL 1310; Ur. \*šüwä (Coll. 82; = UEW 499 šegä 'gut, gesund; ? gerade (?); Kartv. \*šw- 'to resemble' ЭСКЯ 140, 217-218; EWK 424-425; IE \*swā- (~ō-), \*sū- 'strong, healthy' Fraenkel 937. МСЧЯ 371.

2. ? Nostr. \*šiwngV 'snow': Alt. \*sjuze 'hoar-frost' EDAL 1294; Ur. (Finn.) \*š/čüge (Itkonen FUF 30, 48-49; ND 2161; cf. UEW 621); ? Drav. \*ciñ- (\*č-) 'to drop, drizzle' DED 2520; IE \*sneigh- 'snow, to snow' WP II 695. МСЧЯ 366.

3. ? Nostr. \*širV-mV 'sinew; root': Alt. \*šjōrme 'sinew' EDAL 1283; Ur. FU šermV 'sinew, thread' Реш. 10; Drav. \*s/\*šīr (?) root; IE \*ser- 'нить, нанизывать' (Pok. 911). МСЧЯ 341.

4. Nostr. \*šewV 'to let, agree': Alt. \*sēbe 'to love, have fun' EDAL 1221; Ur. \*š/čewV > Finn. hevi 'easily, with pleasure'; Kartv. \*šw- 'to let go, to leave' ЭСКЯ 214-215, EWK 425; IE \*sewə- 'to let' WP II 472. МСЧЯ 358, Этимология 1968, 240-241.

5. Nostr. \*šam- 'shape': Alt. \*sāmo 'shape, appearance' EDAL 1207; Ur. FW \*šam3 'Form, Gestalt, Gesicht' UEW 782; IE ? \*sem- 'pron.: one, whole' WP II 488.

6. Nostr. \*šogi- 'breath': Alt. \*soge 'to breathe, breath' EDAL 1302; Ur. \*šoka- 'seufzen; ruhen' UEW 501; Drav. SDr. \*Suj- 'breath' DED 2680.

7. Nostr. \*šAṅV- 'стремиться': Alt. \*sage (~z-) 'to envy' EDAL 1210; Ur. FU \*šaṅ3 'wollen, streben' UEW 496; Kart. Georg. š(v)n- 'passend finden'; IE \*sen(w)- <PIH \*-nH-> 'to plan, win, finish' WP II 493. ND 2163.

8. Nostr. \*šarw- 'a blossoming bush': Alt. \*saro 'a k. of blossoming plant' EDAL 1214; Kartv. \*šor- 'rhododendron' EWK 430; IE \*serb- 'rowan' Fraenkel 2, 776.

9. (?) Nostr. \*šVķV 'to see, know': Alt. \*se'k'u 'to watch, be aware' EDAL 1226; Ur. FP \*šoke 'sagen, sprechen' UEW 786; IE \*sekwe-, \*skwē- 'to follow, to see, notice; to tell, to talk' WP II 477, 500.

10. Nostr. \*šArV 'rare': Alt. \*sārV 'to be rare, thinned out' EDAL 1218; Ur. FU \*šārV 'undicht, offen, frei (von etw.), unbewaldet' UEW 497 (cf. also \*šorwa 'dünn, spärlich, undicht' UEW 502); (?) Drav. \*sir-ḡ- 'to diminish' DED 2503.

11. Nostr. \*šVjpi 'to wither': Alt. \*šjāp'ī (~z-) 'to wither, rot' EDAL 1268; Ur. \*šoppV (\*šappV) 'trocknen' UEW 502; Drav. \*s'ab- 'rotten' DED 2341. ND 2012.

12. (?) Nostr. \*šVpV 'a k. of leaf tree': Alt. \*šipo (~z-) 'a k. of broad-leaf tree with nuts or acorns' EDAL 1257; Ur. FW \*šapa 'Espe' UEW 683; [Kart. \*čip- 'beech' ЭСКЯ



244, EWK 503-504. Or \*č'ab- 'chestnut/merry tree' ЭСКЯ 247, EWK 517]; IE \*ap[u]s-/\*asp- 'asp, a k. of Quercus' WP I 50<sup>32</sup>.

13. (?) Nostr. \*šUjNV 'soul': Alt. \*sju'nu 'form, shape, soul' EDAL 1294; Ur. \*šuge 'Seele (von Verstorbenen), Geist' UEW 503. ND 2160. The Alt. diftong and the intervocalic nasal are unclear.

14. (?) Nostr. \*šEdV 'to determine, achieve': Alt. \*se'da' (~ z-) 'to think, determine' EDAL 1222; (?) Ur. \*satta 'geraten, treffen, eintreffen' UEW 753; Kart. \*šed- 'to suit, to be appropriate' ЭСКЯ 214, EWK 422-423; IE \*sēidh- 'direct; to aim' WP II 450. The \*s- in Ur. is unclear.

[15. Nostr. \*š[e]wV to bear: Ur. ? Mar. šewä 'потомство'; Kart. \*šew-/šw- 'to give birth' ЭСКЯ 139, 214, 217, EWK 423-424; IE \*seuə- 'to give birth' WP II 469. МСЧЯ 361; ND 2179]

[16. Nostr. \*šElkV 'to fly, soar; be thrown, throw': Ur. \*šilkV (\*šülkV) 'fliegen; schweben' UEW 500; IE \*selg'- 'to throw away, pour out, send away, free' WP II 508].

[17. Nostr. \*šindV 'a k. of tree': Kart. \*šind- 'cornel' EWK 430; Drav. \*sint- 'tamarind tree' DED 2529].

Cf. also:

1. Nostr. (?) \*s/\*šUpV 'a k. of onion': Alt. \*sokpV 'a k. of onion' EDAL 1303; Ur. \*s/\*šup(V-)IV 'eine Art Lilie (bzw. Zwiebel der Lilie); Lilium martagon' UEW 451. [The problem of this etymology is the likeness of Ur. (in fact, Ob-Ugric \*tāpkəl, South Samoyed (?) togil 'Lilienzwiebel') and TM \*seḡKule (< \*\*soḡKule < Alt. \*sokpV) > Manch. seḡgule, seḡkule, semkele 'a k. of garlic'; it is tempting to suppose a PTM word \*soḡKule 'Lilium martagon' borrowed in early PSam \*sogḡil and then from PSam in Ob-Ugric \*tāpkəl; about the possibility of such borrowings see Хелимский 2000, 279].

Non-initial position:

1. Nostr. \*bišU 'bile': Alt. \*büsi 'kidney, liver' EDAL 387; Ur. piša 'Galle > grün; gelb' UEW 384; Drav. \*pic- (?) 'mad; bile' DED 4142; IE \*bis-(t)IV 'bile' (Pok. 102). МСЧЯ 340.

2. Nostr. \*lašU ? 'lip, lick': Alt. TM \*lusimā 'upper jaw, muzzle, upper lip' (CCTMЯ 1, 513); Kartv. \*laš- 'lip', \*luš- 'to lick, to devour' ЭСКЯ 120, 122, EWK 216-217; IE ? OInd. rasati '(he) tastes, relishes', rasanā 'tongue'. МСЧЯ 347, ОЧЯ 2, 36-37.

3. Nostr. \*meḡu(kV) 'knot, tie': Alt. \*mīusu 'to bind, strand' EDAL 937; Ur. \*mutka 'Knollen, Knoten, Beule' UEW 705; IE \*mezg<sup>w</sup>- 'to knot, to make a loop' WP II 301.

4. ? Nostr. \*wejšV 'grow': Alt. \*juse 'to grow, sprout' EDAL 623; Ur. FP wiša 'grün, gelb'<sup>33</sup> UEW 823; (?) Georg. vežan- 'dove-coloured, gray'; IE \*ueis- 'to sprout' > 'green' WP I 242. МСЧЯ 359.

[5. ? Nostr. \*wešV 'to eat, food': Ur. FW \*wešnā 'eine Art Getreide: Spelt, Dinkel, Weizen' UEW 821; IE \*wes- 'weiden, sich nähren' WP I 307, Adams 585 (and Toch.

<sup>32</sup> The Turk. \*ab(u)s-ak 'asp, poplar' probably is a loan-word from an unattested Tocharian reflex of IE, as it is suggested in Ryna-Tas TE.

<sup>33</sup> Shall be distinguished from FU wiša 'Gift' evidently borrowed from Indo-Iranian.

wsār (A) 'heap of grain', ysāre (B) 'wheat', not 'spring-vegetable' and not to IE \*wes- (er/n-) 'spring-time' despite Huld, 1990:420, fn. 15].

6. Nostr. \*jVgšV 'crack, crush': Alt. \*isu 'to crush, grind; bite' EDAL 593; Ur. ? FW \*jaḡša 'Mehl; mahlen' UEW 631; Drav. NDr. \*iḡg- 'to crack, split' DED 423. ND 787.

7. ? Nostr. \*pVšV 'to rub, crumble': Alt. \*p'isi(KV) 'to break, cleave, peck' EDAL 1145; Kart. \*pšw-en- / pšwn- 'to mince, crumble' EWK 366; Drav. \*pū[c]- 'to smear, rub' DED 4352; IE Hitt. pes- 'rub, scrub'. ND 1816.

8. Nostr. \*nVšV 'blunt, flat': Alt. \*ne'se ( ~ -o) 'flat, to flatten' EDAL 974; Ur. FP \*nišV (\*nüšV) 'stumpf' UEW 708.

9. Nostr. \*pVšV 'seed, nut': Alt. \*pisV ( ~ p'-, -ja-) 'seed, grain' EDAL 1091; Ur. FP \*pāškV 'Nuss, Haselnuss' UEW 726; Kart. ? Georg. pačka 'millet' (the cluster -šk- lacks in Georgian). ND 1812.

[10. Nostr. \*IVšV ( ~ -ž-) 'last, next': Ur. FW \*läše 'nahe gelegen' UEW 687 (in UEW erroneously \*läse, but cf. -h- in FB); IE \*IAis- 'last' WP II 387].

? [11. Nostr. \*gErsV ( ~ -š-) 'to grow numb': ?? Ur. FU \*kārs/šV 'grow numb' (by Dolgopolski ObUgr. kār't-'grow numb (erstarren)' > Vg: kār'təwy-, kōrt-, kart- 'become numb with cold, from illness, etc. (steif werden, erstarren)' > Os: karət-, but all these forms can be borrowed from Turk. \*kart- 'become hard, numb' ЭСТЯ 5, 314-315); IE \*g'hors- / \*g'hers- 'to jut out, to bristle' WP I 610. ND 682].

The reflexes of voiced sibilants are substantially more rare but reveal similar reflexes (with some additional distributions). The plain \*z- reveals despite Dolgopolsky 1998 not only Alt. \*z-, but the "intervocalic" reflex \*ž, and these two types can be distributed phonetically:

Alt. \*z, Nostr. \*z<sup>34</sup>

/[(Resonant +) Stop]:

1. Nostr. \*zEpV 'to hold in mouth': Alt. \*zep'i 'to hold in mouth, gnaw' EDAL 1512; Drav. \*sap- 'to chew, to suck' DED 2344.

2. Nostr. \*zaḡU-(ti) 'to plait, smth. plaited': Alt. \*zakt'i 'cushion, mat' EDAL 1507; Ur. FU \*säkt3- 'flechten, flicken (z.B. Netz)' UEW 470; Kart. \*skw- 'to tie (lace, etc.)' ЭСКЯ 164, EWK 302-303 (assimilated from \*zḡkw-?); (?) IE \*suk- 'to spin, to twist, to turn' Фасмер 3, 635. ND 2031; 2663.

3. Nostr. \*zaye 'to interrupt, stop': Alt. \*zage 'to prevent, obstruct' EDAL 1507; Kart. \*zyw-ed- 'to limit, fence', \*zyw-ar- 'limit' ЭСКЯ 89; Drav. \*sāj- 'to leave; to cease' DED 2351; IE \*sēy- 'to linger' WP II 459.

4. Nostr. \*zUdV ( ~ ž-) 'long hair': Alt. \*zodgV 'long hair' EDAL 1522; Drav. \*žut- 'tuft of hair' DED 2655.

5. (?) Nostr. \*zAtV 'relative, companion': Alt. \*zāto ( ~ \*zjōta) 'relative by marriage' EDAL 1520; IE \*seta- 'companion, fellow, guest' WH 2, 481, Фасмер 3, 338 (why \*-t- and not \*-d-?).

<sup>34</sup> The other possibility is to reconstruct here two patterns: \*z and \*zw; evidently, the number of cases is not sufficient for a sure establishing of a distribution.

6. Nostr. \*zojnɪV 'fist, to beat': Alt. \*ziōnu 'fist, hand' EDAL 1520; Ur. \*sentä- 'reissen, pflücken, abbrechen' UEW 473; Drav. SDr \*Soñɪ- 'to hit with knuckles' DED 2400; IE \*sneit- 'to cut off, to to chop off' WP II 695. Дыбо 1989, 1996.
7. [Nostr. \*zi(n)dV 'to draw, pull': Kart. \*zid- 'to drag, pull' ЭСКЯ 87, EWK 143-144; Drav. \*Sēnd- 'to draw out, remove' DED 2812. ND 2657.
8. [Nostr. \*ZengU 'to sing': Georg. zen- 'sing'; IE \*seng<sup>wh</sup>- 'to sing' WP II 496].
9. [Nostr. \*zEr(d)V 'to grow': Ur. FW \*s/s'erä 'alt, bejahrt' UEW 440; Kart. \*zard-/zrd- 'to grow' ЭСКЯ 88, EWK 139-140; Drav. SDr \*Seɾ- 'fertile; to flourish' DED 2789. ND 2686].

/\_[Resonant]:

1. Nostr. \*zalU- 'to bind': Alt. \*žālo 'to fasten, bind, hang' EDAL 1526; ? Ur. \*sal3 'Band' UEW 461<sup>35</sup>; Kartv. \*zawl- 'fettters, trap' Фенрих 1980, 179.
2. Nostr. \*zum- 'to get uptight': Alt. \*žūmo 'to think of, remember' EDAL 1554; Ur. FU \*som3-r3 'Kummer, Trauer; ? traurig sein' UEW 485; Kartv. \*zm- 'to dream' ЭСКЯ 88, EWK 145-146; Drav. ?\*zōmb- 'drowsy, lazy, idle; swoon' DED 2882; IE \*(s)mer- 'to fall to thinking, to remember, to take care' WP II 689. ND 2692, 2693.
3. Nostr. \*zVwV 'to bear, be born': ? Manch., Jurch. žuj 'son'; Sam. \*soyo 'be born, grow'; Kart. \*zw- 'to kitten, to fawn' ЭСКЯ 87, EWK 142, 143; Drav. \*žēv- 'child' DED 2813. ND 2656.
4. ? Nostr. \*z/zUɣV 'summer': Alt. \*žu 'summer' EDAL 1552, Ur. \*suge 'Sommer (< \*eine milde Jahreszeit, Tauwetter; tauen (Schnee))' UEW 451, Kart. \*za 'season' ЭСКЯ 86, EWK 138, Drav. \*sōn- 'rain' DED 2899, IE \*sem- 'summer, year' WP II 492 f, Adams 668.
5. Nostr. \*ziwIV 'slide, creep': Alt. \*žjūlu (~ -a) 'to slide; smooth, slippery' EDAL 1548-1549; Kart. \*zirt- 'to glide'; IE \*(t)sel- 'to creep' WP II 505. МСЧЯ 356; ND 2724.
6. Nostr. \*zVwɪV 'to pour, stream': Alt. \*žjōlu 'river bed, stream' EDAL 1543; Kart. \*zywel- 'to pour down (of rain)' EWK 149; Fähnr. 5; Drav. \*žal- 'to strain, sprinkle, spring' DED 2384.
7. Nostr. \*z/zVrV 'edge': Alt. \*žēro (~ -u) 'edge, row' EDAL 1535; Ur. FW \*s'ire 'Seite, Kante, Rand' UEW 774.
8. ? Nostr. \*zajna 'burn, shine': Alt. \*ža`jna 'to burn; ashes, tar' АПИПЯЯ 287, EDAL 1539 (but reconstruction of TM \*-ia-, Alt. \*ja has no reasons); Ur. FU \*s'ine 'Holzkohle' UEW 480; Drav. \*z/žaj- (?) 'moon' DED 2287. ND 2736.

Non-initial position:

1. Nostr. \*gwVZV 'direction, road': Alt. \*k'jōža 'side, direction' EDAL 811; ? Ur. Ug. \*kec`V 'Spuren folgen, verfolgen' UEW 856; Kartv. \*gz(a)- 'road' ЭСКЯ 62-63, EWK 84-85.

<sup>35</sup> The possibility of reconstruction of \*δ, suggested by Redei, is excluded by the fact that Mari kit-šol 'Armband, Armring' is borrowed from Chuv. solъ 'wrist, bracelet' < Turk., see EDAL 1227.

2. ? Nostr. \*kV[z]V 'neck': Alt. \*kuži ( ~ \*kože) 'neck, collar' EDAL 750; Kart. Georg. kiser- 'neck'; Drav. NDr. \*kēs- 'neck' DED 1996. ND 1242. The abruptiveness of the initial and the voicelessness of the medial in Kart. are unclear.

3. Nostr. \*nVzV 'sun, summer': Alt. \*nāžV 'summer, midday' EDAL 963; Drav. \*n'ēsir- 'sun' DED 2910. Blazh. LNA, ND 1632a.

[4. Nostr. \*dVHlZV 'to tear, crush': Kart. \*dylez- / dyliz- 'to tear roughly' ЭСКЯ 76-77, EWK 116; IE \*dhlas- 'to crush' (Pok. 271)].

[5. Nostr. \*kVrZ/ žV 'hornet, wasp': Kart. Georg. krazana 'wasp, gadfly, bumblebee'; IE \*k'er[a]s-, \*k'rās- 'hornet' WP I 403. ND 1196].

Alt. \*z, Nostr. \*z

/[(Resonant+) Stop]:

2. Nostr. \*zīpe- 'a fur animal': Alt. \*zīpe(kV) 'wolverine' EDAL 1514; Ur. \*s/š/tāp3 'Eichhorn, Maus' UEW 436<sup>36</sup>; Drav. \*siv-aṇ- 'lynx, leopard' DED 2580; ??? IE \*sing'ho- 'lion, leopard' (WP II 508). Dolgopolski 1998.

3. Nostr. \*zVgnV 'sleeve, arm': Alt. \*zjognV 'sleeve' EDAL 1518; Ur. \*s/šepk3 (s/šāṅk3) 'irgendein Glied; Oberarm, Unterarm' UEW 439; Drav. \*saṅk- 'armpit; to tickle' DED 2274.

4. Nostr. \*zUkV 'to ferment, squeeze juice': Alt. \*zjuko 'to rot, ferment' EDAL 1520; IE \*s[e]juk- 'to squeeze the juice, to strain, to filter' Fraenkel 941.

5. Nostr. \*z/zOnt- 'детеныш, рожать': Alt. \*zūnti 'a young animal'; Ur. FP \*sūnti- 'sich vermehren, geboren werden' UEW 439; Drav. \*sāṇḍ- 'menstrual discharge; semen' DED 2447.

6. Nostr. \*z'esV 'to destroy': Alt. \*zjāsu 'disorder, devastation' EDAL 1518; Ur. FP \*sās'V 'reissen, aus-, herausziehen' UEW 757; Kart. \*z'ez'- 'to pound, thwack' EWK 151.

7. ? Nostr. \*z'OrgV 'back': Alt. \*z/sjōgdu' '(spinal) sinew' EDAL 1273; Kart. Georg. zurg- 'back (dorsum)'; IE \*(s)terg<sup>wh</sup>- 'skin (on the back)' WP II 627. ND 2660. A metathesis of dental from the final cluster in IE?

8. Nostr. \*zVqtV 'thigh, shank': Alt. \*zjōgtu 'thigh, shank' EDAL 1519; Kartv. \*čqrta 'elbow' (automatically from \*sq- < \*zq-) ЭСКЯ 254, EWK 534-535; IE \*s[e]kt- (/? \*sk[e]kt-) (-th-) 'thigh, hip' Adams 258 (with doubt). The effects of final cluster in IE?

[9. Nostr. \*zitxV 'dirt, excrements': Ur. FP \*sitta 'Dreck, Scheisse, Kot, Mist; seine Notdurft verrichten, scheissen' UEW 444; Kart. Georg. zitx- 'dirt'; Drav. \*žint- (?) 'a smeary or greasy substance' DED 2516; IE \*sk(?)eit-, -d- 'vomere, cacare' WP II 541. ND 2687. The effects of final cluster in IE?].

/[(Resonant):

1. Nostr. \*z'alV 'to hide, deceive': Alt \*žjala 'to deceive' EDAL 1532 (there \*žela, but for TM the reconstruction of \*žile- 'secret, to hide, to deceive' is possible: Evk. želum;

<sup>36</sup> For the correspondence of meanings cf. Nostr. \*čAmrU 'a k. of small animal': Alt. \*č'āmro 'squirrel, sable, mouse' EDAL 415, Ur. \*s'urme 'Wolf, Luchs, Marder' UEW 490, Drav. \*cund- 'mouse, rat' DED 2661.

Evn. žel'm, žiel'm; Neg. želum2; Man. žele, žile-, žendu 2; Ul. žele(n) 1; Ork. žele(n), žile(n), želum-; Nan. žel CCTMЯ 1, 257, 284; that permits to reconstruct an Alt. diphthongue; Ur. \*sala 'verstecken, verhehlen, stehlen; Dieb' UEW 430; ?? IE [cf. Germ. \*stelanan 'to steal', see Orel HGE 374]. MCCHЯ 368; ND 2722.

2. Nostr. \*z'irV 'to split, separate': Alt. \*žirV 'to split, slice' EDAL 1538; Ur. FP \*sErV 'auftrennen' UEW 769 or FP \*sira 'Splitter; in kleine Teile zersplittern' UEW 759.

3. Nostr. \*z'arV 'to hate, be annoyed': Alt. \*žeri 'to be annoyed, disgusted' EDAL 1535 (but change PTM \*žeri- 'to boast' CCTMЯ 1, 285 to PTM \*žar-ga- 'дразнить, оскорблять', \*žar-ul- 'надоесть, наскучить', \*žar-un 'отвратительный' CCTMЯ 1, 252, 253, and the Altaic reconstruction to \*žari or \*žari); Kart. \*z'ar- 'to have enough; to be scared; to be unpleasant' EWK 149; Drav. ? SDr \*Sūr- 'fear; disgust' DED 2725. ND 2677, 2682.

Non-initial position:

1. ? Nostr. \*qewz'V 'cough': Alt. \*kjuču 'to cry, cough' EDAL 701-702; Ur. \*kuse 'Husten; husten' UEW 323; Kart. \*qwez- 'to cough, cough (n.)' ЭСКЯ 265, EWK 565; IE \*k<sup>w</sup>ās- WP I 506. Expected \*-ž- in Alt. and \*q- in Kart.: the effects of imitative character of the word? Hegedüs 1990, 97; ND 1944.

2. [Nostr. \*nEz'V 'female': Ur. \*nis3 'Weib, Frau' UEW 708; Kart. Georg. nezv- 'female animal'. ND 1575].

3. Nostr. \*mu(n)z'V 'a k. of small animal (mustelidae?)': Alt. \*m<sup>j</sup>ünžü 'a k. of badger' EDAL 934; Kart. ? Svan. mužulid- 'bat'; IE (?) \*mūs-tel- 'weasel' (Osset. mystuläg 'weasel', Slav. \*mīstlь, \*mīstlь ЭССЯ 21:52, Lat mūstēla (~ -u-) f. 'Wiesel').

[4. Nostr. \*mVnz'V 'luminary': Ur. (cf. \*min'V 'Himmel' UEW 276?); Kart. \*mz'e- 'sun' ЭСКЯ 133-134, EWK 238, 151-152; Drav. (cf. \*miṅ- 'to lighten; spark; star' DED 4876?); IE \*(ə)mēns- 'moon, month' WP II 271, Adams 468. ОЧЯ 2, 77-78; ND 1520].

Alt. \*š, Nostr. \*zw, \*z'w

1. Nostr. \*zwVnkV 'to bend': Alt. \*šöge (~ -i) 'deep, hollow' EDAL 1343; Ur. \*s'ige 'Biegung, Krümmung; door post' UEW 480; Kart. Georg. znek- / znik- 'bend, curve'; IE \*sweng(ʔ)- 'to surround, to twist, to bend' WP II 526. ND 2746.

2. Nostr. \*zwUpV 'to suck': Alt. \*šju'p'u 'to suck, hold in mouth' EDAL 1340; Kart. ? \*çob- 'to suck' (the characteristics of both stops are irregular; cf. also Svan. zweb- 'eat') EWK 507-508; Drav. \*c/sub- 'to suck' DED 2621; IE \*sūp- (\*swəp-?) 'to gulp; broth, soup' WP II 468.

The cases with irregular correspondences due to secondary assimilations:

1. Nostr. \*zwačV- 'rope, fibre': Alt. \*šjač'i 'a k. of rope, fabric' EDAL 1331; Ur. \*sāc3 (sec3) 'feine (Hanf- od. Flachs-) Faser' UEW 433; Kartv. \*žačw- 'chain' (assimilated) ЭСКЯ 237 (\*z'eč'w-), EWK 571-572 or \*ç'eč'-: Georg. çeç- 'to get entangled, to comb the wool', Megr. čaç- 'to string' ЭСКЯ 244.

2. Nostr. \*zwečV 'to pour out': Alt. \*šēčo 'to scatter, pour out' EDAL 1325; Ur. \*sācä 'Ueberschwemmung' (UEW 469); Kart. \*ziz- 'to fill, overfill' EWK 144. MCCHЯ 368.

Non-initial position:

1. Nostr. \*qVzw/z'wV 'to scrape': Alt. \*k'jo'se 'to scrape, shave' EDAL 809-810; Ur. FU \*kis'kV, kes'V ''reissen' UEW 151, 162 or FU \*kVs'V > Ug. \*kEsV 'schleifen, wetzen' UEW 862, or FU \*keskV 'schleifen, wetzen, schärfen' UEW 151; Kart. Laz. qaz- 'trim, plane wood'; Drav. \*kic- 'to pinch' DED 1513; IE \*kes- 'to comb, to scratch' WP I 449. MCCЯ 372, OCHЯ 1, 343.

Alt. \*z, Nostr. \*ž

1. Nostr. \*žejpV 'new, good': Alt. \*zējna 'new' EDAL 1510; Ur. FU \*šepā 'gut, gesund; ? gerade' UEW 499; or Nostr. \*žipkV 'quiet, good': Alt. \*zipke 'light, quiet' EDAL 1514, Ur. šepā 'gut, gesund; ? gerade' UEW 499.

2. ? Nostr. \*žehra 'to wake': ? Alt. \*sāri 'to know; beware, feel' EDAL 1219; Ur. \*šerV- 'wake' (SKES 71); [Kartv. \*zar- 'to care' EWK 139 is probably from Iranian, but cf. \*zer- 'to look' EWK 142]; IE \*serHw- 'to guard' WP II 49. MCCЯ 331, 333, OCHЯ 2, 107-108, ND 2172.

Alt. \*ž, Nostr. \*žw

1. Nostr. \*žwVpV 'evening, sleep': Alt. \*žip'u 'evening, darkness' EDAL 1538; Ur. FP \*šoprV 'dream, day-dream' (Finnish houra- 'be delirious, be wandering (in one's mind)', hoprentia id., Estonian houri- 'speak thoughtlessly', Komi šobrdli- 'to appear in one's phantasy/dream' Лыткин - Гуляев 320, for the reflexes of the cluster cf. FP \*kopra 'Faust, eine Handvoll' > Finnish koura, (dial.) kopra 'Faust, Hand, eine Handvoll', Komi gabjr, kabjr 'hohle Hand, Faust' UEW 183); IE \*swepe- 'to sleep' WP II 523. [cf. ND 2693].

Non-initial position:

1. Nostr. \*bažV 'ripen': Alt. Mong. bažaya- 'prepare, get ready, purvey'; Ur. FP \*paše 'braten, backen, rösten' UEW 725; Kart. Georg. baz- 'ripen'; Drav. \*pās- 'to rot; stale' DED 3826, 4057. ND 280 (without Drav.).

[2. Nostr. \*wažV little, young: Ur. FW \*wāšā 'klein, wenig' UEW 818; Kart. Georg. važ- 'son, boy'. ND 2559].

The reflexes of voiced sibilants can be distinguished from the reflexes of voiced affricates presumably resulted by correspondences as follows:

Alt. \*z, Nostr. \*ž

1. Nostr. \*žihU 'fence, building': Alt. \*zik'u 'village' EDAL 1317; Ur. \*ćok3-m3 (ćoy3-m3) 'zeitweiliges Obdach; Höhle von Tieren' UEW 38; Kartv. \*žixe- 'крепость' ЭСКЯ 239, EWK 491.

2. ? Nostr. \*žAIV-: Alt. \*z[e]la 'to be awake; to live' EDAL 1511; Kartv. \*žal- / \*žel- 'strong'. Cf. Этимология 1972, 170.

3. Nostr. \*žinV- 'to look': Alt. \*žini 'shape, observation' EDAL 1513; Kartv. \*žin- 'to look' EWK 489.

4. Nostr. \*žinV 'night, sleep': Alt. \*žiono ( ~ s-) 'night' EDAL 1280; Kartv. \*žin- 'to

sleep' ЭСКЯ 238, EWK 489-490; [Drav. \*Cin-tV 'evening' DED 2528, IE \*snoud- 'to doze' WP II 697]. Этимология 1972, 167.

5. Nostr. \*ʒAylV 'dog, fur animal': Alt. \*zio'lakV (~ s-, -o-, -l-, -ak-, -k-) 'a k. of small fur animal (fox, marten, badger)' EDAL 1307-1308; Kart. \*ʒ'ayl- 'dog' ЭСКЯ 236, EWK 484; Drav. \*ʒā[v]il- 'dog' DED 2459; IE \*(s)kol- 'puppy' WP I 443. ND 272 (without IE).

6. ? Nostr. \*ʒewlV 'neck, nape': Alt. \*ziūla 'spine, nape; ridge of roof or mountain' EDAL 1521; Ur. FW \*selkä<sup>37</sup> 'Rücken' UEW 572 (+ Perm. \*sül- 'neck'); Drav. \*ʒol- 'bundle, tress at the back of the head; back' DED 2858; IE \*swel- 'mountain (ridge, forest); ridge (of a roof)' WP II 503, Buck 46 or \*skAl- 'rock, stone plate' WP II 590. Дыбо 1989 (without IE).

7. Nostr. \*ʒilwV 'wood, stick': Alt. \*ziūldu 'root, yein' EDAL 1521; Ur. \*solče<sup>25</sup> 'Pfahl, Stange' UEW 483 [or \*jülğa Долг.]; Kartv. \*ʒel- 'tree' ЭСКЯ 237, EWK 486; Drav. \*SiIp- 'chip of wood' DED 2586 or SDrav \*Suli 'twigs, branches, brushwood' DED 2303; ? IE \*k'sewl-, \*k'swel- 'log' WP II 503. Этимология 1972, 170-171.

8. Nostr. \*ʒirV 'root, sinew': Alt. \*z(i)urV (~ s-, -r-) 'root (of tooth), fang' EDAL 1320; [? Ur. FU ? \*särV 'Ader, Faser, Wurzel' UEW 437]; Kart. \*ʒ'ir- 'root, bottom' ЭСКЯ 238-239, EWK 490; Drav. PGK \*s/\*sīr 'root' EDAL 2626 if not to Nostr. \*širV-mV 'sinew; root': see above.

9. ?? Nostr. \*HVʒVrV 'star, luminary': Alt. \*zēra 'light; moon, moon cycle (year)' EDAL 1512; Drav. \*sār- ? 'time, turn' DED 2464; IE \*Haster- 'star' Adams 640, WP II 635. ND 2679, 2701. The deviation of reflexes is due to the initial/non-initial variants.

Alt. \*ʒ, Nostr. \*ʒw

1. Nostr. \*ʒwVwV 'to eat, taste, bite': Alt. \*ʒVbV 'to bite, swallow' EDAL 1556; Kart. \*ʒ'ow- 'to graze; to stuff the mouth' ЭСКЯ 240, EWK 491-492; Drav. SDr \*Suv- 'to taste' DED 2396. ND 2764.

2. Nostr. \*ʒwVHV 'to go, come, drive': Alt. \*ʒi (~ \*ʒia) 'to come' EDAL 1536; Kart. \*ʒ'eyw- / \*ʒ'ýw- 'to precede, go first' ЭСКЯ 240, 241, EWK 487-488; Drav. \*s'ō- 'to get out; to drive away' DED 2878. ND 2765, 2766.

3. Nostr. \*ʒwAbV 'a k. of reptile': Alt. \*ʒ(i)abda 'a k. of snake' EDAL 1524; Kart. \*ʒ'webu- 'toad' Климов 1994, 110-112; ? IE \*skwābh- 'fish-scale' (Germ. \*skō[p]-a-m., -an-m., \*skōbb-an-m. Lat. squāma f. 'Schuppe (der Fische, Schlangen, Bienen etc.)' < \*skwābh-s-ma) WH 2, 583.

4. ? Nostr. \*ʒwVkv 'to strike, push': Alt. \*ʒūgdV (~ -o-) 'to hit, strike' EDAL 1552; Kart. Georg. -ʒek- 'pack tight, cram full'; Megr. ʒik- 'push', Drav. ? PGK \*ʒok- 'strike, kill'. ND 2792; 2793.

5. Nostr. \*ʒ(w)VnU 'year, old': ? Alt. Turk. \*junč/jönč- 'to deteriorate, to grow old' VEWT 213, EDT 945; ? Ur. \*s/\*š opkV 'alt; alt werden' UEW 448; or Ug. \*c'eqV (\*c'iqV) 'Zeit' UEW 838; Kartv. \*ʒw(en)- 'old' ЭСКЯ 238 (\*ʒ'wel-, \*ʒ'wen-), EWK 488; Drav. PGK \*ceñ- 'old' DED 2808; IE \*senə- 'of last year, old' WP II 494. МСЧЯ 337; Долгопольский 1972, 167.

<sup>37</sup> Ur. \*s before clusters?

[6. Nostr. \*ǵwArywV: Ur. FP \*serwV<sup>25</sup> 'blood-vessel' UEW 784; Kart \*ǵaryw- 'sinew' ЭСКЯ 236, EWK 483-484].

[7. Nostr. \*ǵ/\*ǵ'VnV 'to diminish': Ur. FU \*c'VnV- '(sich) vermindern, (sich) verkleinern, eintrocknen' UEW 48; Kart. \*ǵenǵ- 'abnutzen' EWK 476-477; Drav. \*čín- 'small' DED 2594].

(With assimilations)

1. Nostr. \*ǵawš- 'edible grain': Alt. \*zǵǵbsa 'lentil, pea' EDAL 1514; Ur. čošē 'Gerste' UEW 622; Kartv. ? \*čócǵ- 'besom' < 'millet'? ЭСКЯ 230, EWK 466; IE \*sas- 'cereals' WP II 454.

2. Nostr. \*ǵVčǵV 'fire': Alt. ? \*zǵǵčo (~ \*sǵǵčo, \*sučǵ) 'soot, coal' EDAL 1312; Ur. ? Ug. \*čitt3- 'braten' UEW 842 or FP \*c'[i]šV 'scorch, burn' (in ND 2762); Kartv. \*ǵecǵ- 'fire' ЭСКЯ 234, EWK 478; Drav. \*čic- 'fire' DED 1514.

3. Nostr. \*ǵwUkčV 'berry': Alt. \*ǵiutke 'a k. of berry' EDAL 1549; Ur. FU \*č8kč3 (-kk3) 'schwarze Johannisbeere; Ribes nigrum' UEW 46; Drav. SDR \*Sikaṭ-i 'field-bean' DED 2496.

Non-initial position:

[1. Nostr. \*werǵ'V 'male, male animal': Kart. \*werǵ'- 'ram' ЭСКЯ 84, EWK 133; IE \*wers- 'bull' WP I 268, Adams 212 (fr. Indo-Iranian borrowed to FW \*oras'e '(verschnittener) Eber' UEW 720). Этимология 1972, 171, Bomhard 1996, 187, ND 2530].

2. Nostr. \*ǵuǵ'V 'intestine': Alt. \*k'uǵV 'part of stomach, bladder' EDAL 858; Ur. \*kun'c'e ~ \*kuc'e (Samm. \*kuns'i) 'Harn; harnen' (?) UEW 210; Kart. \*ǵwǵ'- 'liver' ЭСКЯ 211, EWK 415; IE \*kūst- 'bladder, inner part of kidney, gut' WP II 546. ND 1952; UEW 210.

3. Nostr. \*nǵǵ'V 'intestines': Alt. \*nǵmǵi(-k'V) 'fat in the intestines, fat food, roe' EDAL 978; Ur. \*n'ǵs'e 'Fischmilch' (FU, UEW 320); Drav. \*nenǵ- 'pith, heart' DED 3736; IE \*(ǵ)enst- 'kidney' WP I 166. VEWT (Ur.-Alt.), Дыбо 2000.

Alt. \*ǵ, Nostr. \*ǵ

1. Nostr. \*ǵeGV 'to eat': Alt. \*ǵē 'to eat' EDAL 1531; Ur. \*sewe- (seye-) 'essen' UEW 440; Kartv. \*ǵey- 'to be satiated' ЭСКЯ 235, EWK 477; IE \*sē- 'full, satisfied' (Pok. 876). МСЧЯ 340; ND 2008.

2. Nostr. \*ǵVǵV 'to plait, bind': Kart. Georg. ǵǵ- 'spin'; IE \*sey- <PIH \*sH-> 'to tie together, to tie to' WP II 463. ND 2767.

3. Nostr. \*ǵigV 'thorn': Alt. \*ǵegni 'needle, thorn, arrow' EDAL 468 (there \*dēgni, but TM \*dēngu presented only in Nani group may alternatively be reconstructed as \*ǵēngu); Kart. \*ǵig- 'a k. of thorny plant' EWK 479-480; IE \*seik- 'pointed stick, peg' WP II 474. ND 2707 (w/o IE).

4. Nostr. \*ǵVIV 'weak, quiet': Alt. \*ǵēlo 'weak, quiet' EDAL 1533; Kart. Georg. -ǵal- 'be weakened'; IE \*seil- 'windless, quiet, slow' WP II 459. ND 2727 (w/o IE).

[5. Nostr. \*ǵVǵV 'sheaf, ear of corn': Kart. Georg. ǵǵa 'sheaf of corn'; IE \*songho- 'sheaf of corn/straw' (Arm., Germ., Gr.), ND 2735].



# *Altaic Reflexes of Nostratic Sibilants*

6. Nostr. \*ʒ/\*ʒ'VHrþV 'hedgehog': Alt. \*ǰarp'V (OT jarpuz 'mongoose', Mong. \*ǰaraya 'hedgehog'); Kart. Georg. ʒyarb- 'hedgehog'. ND 2755.

[7. Nostr. \*ʒVšV 'wood, firewood': Ur. ? \*c'aš/skV 'bush, brushwood' Coll. 74; Kart. \*ʒeša- 'firewood' ЭСКЯ 234, EWK 477-478. ND 2761].

Non-initial position:

1. Nostr. \*VwʒV(HV) 'to see': Alt. \*ēbǰo 'to see, understand' EDAL 491; Ur. \*wica 'sehen, schauen' UEW 571; (cf. also FW \*wača 'sehen' UEW 809); Kartv. \*uqç- 'to see' ЭСКЯ 186-187; IE \*ous- 'ear' WP I 18 (+Hitt. aus-, us-ki- 'to see'). ND 855.

[2. Nostr. \*bVrʒV 'thorn': Kartv. \*barʒg-/\*burʒg- 'thorns, thorny plant; bristle' EWK 46, 69; IE \*bhars-, \*bharst- 'prickle, thorn, scale' WP II 131. ND 249].

3. Nostr. \*s/\*c'V(n)ʒwV 'breast': Alt. \*č'a'jǰV 'breast' EDAL 409; Ur. \*s'ic'ä ~ \*s'in'c'ä 'Inneres; Brust' UEW 480; Kart. \*ʒuʒu 'female breast' ЭСКЯ 235, EWK 481; Drav. \*čāc- DED 2436. NB assimilations. ND 2206; 2769.

[4. Nostr. \*ʔVnʒwV 'fang, stake': Ur. \*on'c'a-rV 'Hauer, Hauzahn' UEW 340; Kart. \*anʒa 'stake, mast'; IE \*ns- 'sword' WH 1, 406. ND 139].

5. Nostr. \*saŋʒV 'to hang down; stand': Alt. \*sanǰV (~z-) 'to hang down, lower' EDAL 1209; Ur. \*s'aŋc'a 'stehen' UEW 431 (there \*saŋc'a, but cf. Sammalahiti, with the supposition of dissimilation in \*s- in Ugric and Komi; otherwise the Saam refl. is not plausible); Kart. \*ʒanʒ- 'to be laden with fruit' EWK 472.

The final table of sibilant correspondences follows:

Nostratic sibilant correspondences as re-established

Nostr.	Kartv.	IE	Ur.	Drav.	Alt.
s	s	s	s	s	s
sw	s(w)	s(w)	s	s	š
s	s	s	s	s	s(i)
sw	s(w)	s(w)	s	s	š(i)
š	š	s	š	c	s
šw	š(w)	s(w)	š	s	š
z-	z	s	s	[z]	z/ǰ
-z-	z	s	s	[z]	ǰ
z	z	s	s	[z]	z/ǰ (i)
-z-	z	s	s	[z]	ǰ
zw	z(w)	s(w)	s	[z]	š
zw	z(w)	s(w)	s	[z]	š(i)
ž	z	s	š	s?	z
žw	z, ž	s(w)	š	?	ž

Cf. the correspondences of Nostratic voiced whistling affricates:

ʒ-	ʒ	s(C)/sk(V)	c/s	[ʒ]	z
ʒw-	ʒ(w)	sk(w)	c/s	[ʒ]	ž
-ʒ-	ʒ	-(C)s/-(V)st	[(N)s]	ž?	ž
ʒ-	ʒ	s	s, c	?	ž
-ʒ-	ʒ	s, st	c	C	ž

## References

- Adams – *Adams D. Q.* A dictionary of Tocharian. Amsterdam – Atlanta, 1999.
- Bailey – *Bailey H. W.* Dictionary of Khotan Saka. Cambridge etc., 1979.
- Benzing – *Benzing J.* Die tungussischen Sprachen: Versuch einer vergleichender Grammatik. Wiesbaden, 1956.
- Blazhek DA – *Blazhek V.* The new Dravidian-Afroasiatic parallels. *NDCAA* (1992): 150-65.
- Blazh. LNA – *Blazhek V.* Lexica Nostratica: Addenda et corrigenda. I. *AO LVII/3* (1989): 201-10; II. *AOLVIII/3* (1990): 205-18.
- Bomhard 1996 – *Bomhard A. R.* Indo-European and the Nostratic Hypothesis. Charleston, South Carolina, 1996.
- Buck – *Buck C. D.* A dictionary of selected synonyms in the principal Indo-European languages. Chicago, 1949.
- Coll. – *Collinder B.* Fenno-Ugric Vocabulary: An Etymological Dictionary of the Uralic languages. Stockholm; Uppsala, 1955.
- Collinder CompGr – *Collinder B.* Comparative Grammar of the Uralic Languages. St., 1960.
- Collinder MSFOu 74 – *Collinder B.* Lautlehre des Walldlappischen Dialektes von Gällivare. Hs., 1938 (*MSFOu LXXIV*).
- DED – *Burrow Th., Emeneau M.* A Dravidian etymological dictionary. Second ed. Oxford, 1984.
- Doerfer TMN – *Doerfer G.* Türkische und mongolische Elemente im Neupersischen. Wiesbaden, 1963. I; Wiesbaden, 1965. II; Wiesbaden, 1967. III.
- Donner – *Donner O.* Vergleichendes Wörterbuch der finnisch-ugrischen Sprachen. I-III. Hs., 1874-1888.
- Dolgopolski 1998 – *Dolgopolsky A.* The Nostratic Macrofamily and Linguistic Palaeontology. Cm., 1998.
- Dybo 1990 – *Dybo V. A.* Comparative Phonetic Tables for Nostratic Reconstructions //Proto-Languages and Proto-Cultures. Materials from The First International Interdisciplinary Symposium on Language and Prehistory. Ann Arbor, 8-12 November, 1988 (edited by Vitaly Shevoroshkin). Bochum, 1990.
- EDAL – *Starostin S. A., Dybo A. V., Mudrak O. A.* Etymological dictionary of the Altaic languages. Leden, Brill, 2003.

*Altaic Reflexes of Nostratic Sibilants*

- EDT – *Clauson G.* An Etymological Dictionary of Pre-Thirteenth- Century Turkish. Oxford, 1972.
- EWK – *Klimov G.* Kartvelian Etymological Dictionary. B. / NY, 1998.
- Fähn. 5 – *Fähnrich H.* Kartwelisches Wortschatz V. *Ge* XIII-XIV (1990/91): 15-7.
- Fraenkel – *Fraenkel E.* Litauisches etymologisches Wörterbuch. I-II. Heid. / Gutt., 1955-65.
- Hegedűs 1990 – *Hegedűs I.* Some new Nostratic etymologies: a proposal. *UIII* (1990): 96-100.
- Itkonen FUF 26 – *Itkonen E.* über den Ursprung einiger lappischen Wörter. *FUF* XXVI/2-3 (1939-40): 192-7.
- Jahnhunen – *Janhunen J.* Samojedischer Wortschatz. Gemeinsamojedische Etymologien. Helsinki, 1977.
- JLTT – *Martin S. E.* The Japanese Language Through Time. New Haven - London, 1987.
- KED – *Martin S.E., Yang Ha Lee, Sung-Un Chang,* A Korean-English Dictionary. New Haven - London, 1967.
- Kettunen – *Kettunen L.* Livisches Wörterbuch mit grammatischer Einleitung. Hs., 1938.
- KWb – *Ramstedt G.J.* Kalmückisches Wörterbuch. Helsinki, 1935.
- Less. – *Lessing F.D.* Mongolian-English dictionary. Berkeley; Los Angeles, 1960.
- Mayr. – *Mayrhofer M.* Kurzgefasstes etymologisches Wörterbuch der Altindischen. Heidelberg, 1953-1979.
- MGCD – *Menggu yuzu yuyen cidien,* Qinghai 1990.
- Nam – *Nam Kwang U.* Koe sacen. Seoul, 1960.
- ND – *Dolgopolsky A.* The Nostratic Etymological Dictionary. Cm., (to be published).
- Orel HGE – *Orel V.* A Handbook of Germanic Etymology. Leiden - Boston, Brill, 2003.
- Pok. – *Pokorny J.* Indogermanisches etymologisches Wörterbuch. Bern, 1959.
- Ram. SKE – *Ramstedt G.J.* Studies in Korean etymologie. Helsinki, 1949.
- Ryna-Tas TE – *Ryna-Tas A.* Tocharische Elemente in den altaische Sprachen? // Sprache, Geschichte und Kultur der altaischen Völker. Protokollband der XII. Tagung der Permanent International Altaistic Conference 1961 in Berlin. Berlin, 499/504.
- Setälä JSFOu 30 – *Setälä E. N.* Zur Frage nach der Verwandtschaft der finnisch-ugrischen und samojedischen Sprachen. *JSFOu* XXX (1913-8), opus 5. S. p.
- SKES – *Toivonen Y., Itkonen E., Joki A.* Suomen kielen etymologinen sanakirja. Helsinki, 1955-1979. I-VII.
- Starostin 1997 – *Starostin S. A.* On the hconsonant splits in Japanese. Indo-European, Nostratic, and Beyond (Festschrift for Vitalij V. Shevoroshkin), Washington 1997.
- Starostin 2002 – *Starostin S. A.* Nostratic stops revisited. // Languages and their speakers in Ancient Eurasia. Canberra 2002
- Street 1980 – *Street J.* Proto-Altaic \*-l(V)b- ~ Turkic š // *CAJ* 1980. Vol. 24, N° 3-4.
- Street 1985 – *Street J.* Japanese reflexes of the Proto-Altaic lateral. *JAOS* 105, 1985.
- Tischler – *Tischler J.* Hethitisches etymologisches Glossar. I (fasc. 1-4), II (fasc. 5-6), III (fasc. 8-10). In., 1977-1994.
- Tyler – *Tyler S.A.* Dravidian and Uralian: the lexical evidence. *Lg* XLIV (1968): 798-812.

- UEW – *Redei K.* Uralisches etymologisches Wörterbuch. Budapest, 1986-1989.
- VEWT – *Räsänen M.* Versuch eines etymologischen Wörterbuchs der Turksprachen. Helsinki, 1969.
- WH – *Walde A., Hofmann J.B.* Lateinisches etymologisches Wörterbuch. I-II. 5. Aufl. Heid., 1982.
- WP – *Walde A.* Vergleichendes Wörterbuch der indogermanischen Sprachen. Hrsg. u. bearb. von J. Pokorny. I-III, Berlin – Leipzig, 1926-1932.
- Абаев – *Абаев В. И.* Историко-этимологический словарь осетинского языка. М.; Л., 1958-1995. Т. I-V.
- Аникин – *Аникин А. Е.* Этимологический словарь русских диалектов Сибири. Заимствования из уральских, алтайских и палеоазиатских языков. М., Новосибирск, 2000.
- АПиПЯЯ – *Старостин С. А.* Алтайская проблема и происхождение японского языка. М., 1991.
- БАМРС – Большой Академический Монгольско-Русский словарь, тт. 1-3. М., 2001.
- БДС – Диалектологический словарь башкирского языка. Уфа, 2002.
- Василевич – *Василевич Г. М.* Эвенкийско-русский словарь. М., 1958.
- Владимирцов-Поппе 1924 – *Владимирцов Б. Я, Поппе Н. Н.* Из области вокализма монголо-турского праязыка. / ДАН-В, апрель-июнь, 1924, N 4.
- Дыбо 1989 (1986) – *Дыбо А. В.* Названия орешника в индоевропейских языках Европы. // Общеславянский лингвистический атлас - 1986. М., 1989.
- Дыбо 1989 – *Дыбо А. В.* Заимствования из уральских языков в анатомической лексике алтайских языков // Лингвистическая реконструкция и древнейшая история Востока. М., 1989.
- Дыбо 1990 – *Дыбо А. В.* Инлаутные гуттуральные в тунгусо-маньчжурском и праалтайском. // Сравнительно- историческое языкознание на современном этапе. М., 1990.
- Дыбо 1991 – *Дыбо А. В.* Тюрк. \*t, \*d // Славистика. Индоевропеистика. Ностратика. М., 1991.
- Дыбо 1995 – *Дыбо А. В.* Судьба праалтайского \* - по тунгусо-маньчжурским и монгольским данным. // Владимирцовские чтения - III, М., 1995.
- Дыбо 1996 – *Дыбо А. В.* Семантическая реконструкция в алтайской этимологии. Соматические термины (плечевой пояс). М., 1996.
- Дыбо 2000 – *Дыбо А. В.* Ностратические этимологии с начальными носовыми. // Проблемы изучения дальнего родства языков на рубеже 3-го тысячелетия. Тезисы и доклады конференции. М., РГГУ, 2000. С. 31-38.
- Лыткин-Гуляев – *Лыткин В. И., Гуляев Е. С.* Краткий этимологический словарь коми языка. М., 1970.
- МА – *Поппе Н. Н.* Монгольский словарь Муккадимат ал-адаб. Ч.I-II // Труды Ин-та востоковедения АН СССР. М.; Л., 1938. Вып. XIV.
- МССНЯ – *Иллич-Свитыч В. М.* Материалы к сравнительному словарю ностратических языков // Этимология 1965. М., 1967.
- Мудрак 1985 – *Мудрак О. А.* К вопросу о чжурчженской фонетике // Языки Азии и Африки: Фонетика. Лексикология. Грамматика. М., 1985.

- Мудрак 1988 – Мудрак О. А. К вопросу о палатализации начальных согласных в чувашском языке // Исследования по чувашскому языку. Чебоксары, 1988.
- Мудрак 1989 – Мудрак О. А. Специфические дробления консонантных рефлексов в чувашском // Лингвистическая реконструкция и древнейшая история Востока. М., 1989. Ч. I.
- Мудрак Дисс. – Мудрак О. А. Обособленный язык и проблема реконструкции праязыка. Диссертация на соискание ученой степени докт. филол. наук. М., 1994.
- ОСНЯ – Иллич-Свитыч В. М. Опыт сравнения ностратических языков. I: Введение. Сравнительный словарь. *b - k*. М., 1971; II: Сравнительный словарь. *l -*. М., 1976; III: Сравнительный словарь. *p - q*. М., 1984.
- Реш. – Решетников К.Ю. Несколько новых ностратических этимологий (уральский - алтайский). // Проблемы изучения дальнего родства языков на рубеже 3-го тысячелетия. Тезисы и доклады конференции. М., РГГУ, 2000. С. 163-70.
- СИГТЯ 2005 – Сравнительно-историческая грамматика тюркских языков. Пратюркский язык-основа. Картина мира пратюрка по языковым данным. М., 2005.
- ССТМЯ – Сравнительный словарь тунгусо-маньчжурских языков. Л., 1975-1977. Т. I-II.
- Старостин 1988 – Старостин С.А. Индоевропейско-северокавказские изоглоссы. // Древний Восток. Этнокультурные связи. М., 1988. 112-162.
- Старостин 2000 – Старостин Г.С. Реконструкция фонологической системы прадравидийского языка. КД. М., 2000.
- Фасмер – Фасмер М. Этимологический словарь русского языка. В 4 т. М., 1964-1973.
- Хелимский 2000 – Хелимский Е. А. Компаративистика, уралистика. Лекции и статьи. М., 2000.
- Цинциус – Цинциус В. И. Сравнительная фонетика тунгусо-маньчжурских языков. Л., 1949.
- ЭСКЯ – Климов Г.А. Этимологический словарь картвельских языков. М., 1964.
- ЭССЯ – Этимологический словарь славянских языков. / Под ред. О.Н.Трубачова. М., 1975. Вып. 2.
- ЭСТЯ – 1,2,3: Севортян Э. В. Этимологический словарь тюркских языков. М., 1974-1980. Vol. 1-3; 4: Севортян Э. В., Левитская Л. С. Этимологический словарь тюркских языков: Общетюркские и межтюркские основы на буквы "Ж", "Ж", "Й" / Авт. сл. статей Э. В. Севортян, Л. С. Левитская. М., 1989; 5: Этимологический словарь тюркских языков: Общетюркские и межтюркские основы на буквы "К", "Q" / Авт. сл. статей Л. С. Левитская, А. В. Дыбо, В. И. Рассадина. М., 1997; 6: Этимологический словарь тюркских языков: Общетюркские и межтюркские основы на букву "Q" / Авт. сл. статей Л. С. Левитская, А. В. Дыбо, В. И. Рассадина. М., 2000; 7: Этимологический словарь тюркских языков: Общетюркские и межтюркские основы на буквы

"Л", "М", "Н", "П", "С" / Авт. сл. статей Л. С. Левитская, Г.Ф. Благова, А. В. Дыбо, Д.М.Насилов, Е.А.Поцелуевский. М., 2003.

Этимология 1968 – *Долгопольский А.Б.* Ностратические этимологии и происхождение глагольных формантов. // *Этимология* 1968. М., 1971. С. 237-42.

Этимология 1970 – *Долгопольский А.Б.* Ностратические корни с сочетанием латерального и звонкого ларингала. // *Этимология* 1970. М., 1972. С. 356-69.

Этимология 1972 – *Долгопольский А.Б.* О ностратической системе аффрикат и сибилантов. // *Этимология* 1972. М., 1974. С. 163-76.

## ON ILLIČ-SVITYČ'S STUDY "BASIC FEATURES OF THE PROTOLANGUAGE OF THE NOSTRATIC LANGUAGE FAMILY"

Vladimir A. Dybo

Illič-Svityč's study entitled "Basic features of the proto-language of the Nostratic language family" remained in an absolutely draft version containing considerable empty slots left for examples, the words are often written in an abbreviated form, the text is full of numerous insertions. From the text it is obvious that it was meant to be the fourth<sup>38</sup> "preliminary" publication preceding the finalization and submission to press of "Opyt ..." <sup>39</sup>, which, however, was never completed and published. The text clearly suggests approximately when it was written: it is the year of 1965, when the author had accomplished the paper "Stop correspondences in Nostratic languages" submitted to *Voprosy jazykoznanija*, and "Materials for a comparative dictionary of Nostratic languages" submitted to the periodical *Etimologija* but before receiving the negative reviews and refusal of the first paper from *Voprosy jazykoznanija*. The refusal by the editorial committee of *Voprosy jazykoznanija* (despite the fully argued response from the author) to publish V.M. Illič-Svityč's article ruined his plan to subsequently, almost simultaneously publish an abridged (therefore easily conceivable) form of the Nostratic theory, what would have protected the theory from a series of preposterous "critical" attacks. He then gave the paper "Stop correspondences in Nostratic languages" to *Etimologija*, where it was supposed to be published within a year following the publication of his other article. But V.M. Illič-Svityč had to abandon the idea of publishing "Basic features of the protolanguage of the Nostratic language family" because it did not fit into the theoretical framework of the periodical *Etimologija*, while *Voprosy jazykoznanija* was, of course, not willing to accept it. He included the beginning, the lists of correspondences and some parts - in a somewhat reformulated version - in the preamble to the article "Materials for a comparative dictionary of Nostratic languages" (the remaining parts were left in draft) and engaged in the minute revision of the etymological entries (a section of the materials prepared for this article obviously made

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<sup>38</sup> By the three "preliminary" publications the following articles are meant: "Sootvetstviya smychnyh v nostratičeskix jazykah" [Stop correspondences in Nostratic languages], "Materialy k sravnitel'nomu slovarju nostratičeskix jazykov" [Materials for a comparative dictionary of Nostratic languages] both of which were published in the periodical *Etimologija* 1965 and *Etimologija* 1966, and "Genezis indoevropejskix rjadov guttural'nyh v svete vnešnego sravnenija" [The genesis of the Indo-European guttural series in the light of external comparison].

its way into the second volume of the Nostratic Dictionary “Opyt sravnenija nostratičeskijh jazykov II: Sravnitel’naja grammatika” that has also survived in a draft form).

Since questions concerning Nostratic morphonology and morphology became relevant in the subsequent discussions because one of the counter-arguments against Nostratic comparisons was the claim that it is impossible to reconstruct Nostratic morphology, I suppose it would be useful to get acquainted with the pertaining ideas of V.M. Illič-Svityč. Below is the text of the section on grammar and morphonology from the outline of the historical comparative phonology given in the above mentioned manuscript article. Following each descriptive paragraph there are notes marked as “Reflexes” or “Representation” in the manuscript, which show the author’s intention to supplement the respective data. In the catalogues of the author there are some cards sorted in groups, which may have been prepared as the illustrations for these insertions. We have to bear it in mind, though, that in the process of work on the etymological dictionary the author may have changed his approach to certain morphological problems, what is visible in a series of etymological chapters devoted to formants.

## Morphonology

### Root structure

Root structure in the Nostratic protolanguage was governed by certain rules.

Grammatical words (pronominal elements – subject, object, possessive, interrogative, demonstrative pronouns, negative pronouns, particles), as a rule, are monosyllabic and have a CV structure, where C can be any consonant or its absence, V stands for any vowel: *\*mi* object pronominal affix; *\*ko* interrogative pronoun; *\*ja* relative pronoun.

The roots of lexical words (nouns, verbs) are regularly bisyllabic and have the structure: 1)  $C_1V_1C_2V_2$ , 2)  $C_1V_1C_2C_3V_2$ , where  $V_1$  is any vowel,  $V_2$  is the vowel *a* or *e*,  $C_1$  is any consonant or its absence,  $C_2$  (in type 1) is any consonant, while the consonant cluster  $C_2C_3$  in type 2 is a cluster formed according to the principle of raising or equal sonority, i.e.  $C_2$  is a sonant,  $C_3$  is a stop, ? laryngeal, sibilant (spirant, affricate), or  $C_2$  and  $C_3$  are sonants and, finally,  $C_2$  and  $C_3$  are stops of the same type of articulation. E.g. *\*bary-* ‘to bear’, *\*....*

Thus the general features of all root types are the following: 1) consonant clusters are not allowed in root initial position, and 2) consonants are not allowed in root final position (the last syllable of any root is an open syllable).

Reflexation in the languages. The archetypal root structure is best preserved in Uralic, less preserved (with simplification of the -CC- cluster in medial position) in Altaic and Dravidian. The final vowels in the second syllable of roots are partially lost in Altaic and they are totally lost in Dravidian. In Indo-European, Kartvelian and Semito-Hamitic the root type  $C_1VC_2C_3V$  can appear as  ${}_1$ , where there is a consonant cluster in root initial position. This metathesis is obviously connected with the peculiarities of suffixation that will be surveyed below. In Semito-Hamitic verbal roots of the type  $C_1VC_2V$  almost entirely ousted the root type  $C_1C_2VC_3V$  ( $C_1VC_2C_3V$ ) at the expense of additional suffixation of the root. In these three language families the vowels in the second syllable are often lost.



### **The structure of derived forms**

Derived stems and derived forms of words are usually created by way of suffixation (on the origin of derivation by prefixes see below in the section "Word-formation"). The usual form of grammatical formants and derivational suffixes is -C- or -CV-, where in the latter case the final vowel can be only \*-a. The only vocalic suffix is \*-a that forms deverbal nouns. Combining the stem with the suffix type -C and with the type -CV- has its peculiarities.

When a suffix C is attached to the stem, the final, closed syllable seems to be stressed: CVCV + C → CVCV̇C, CVCCV + C → CVCCV̇C. The stressed nature of the final closed syllable is reflected in Uralic, and indirectly in Indo-European, Kartvelian and Semito-Hamitic, where structures of the type CVCV̇C and CVCCV̇C are transformed into CCVC and CCVC respectively. In Semito-Hamitic, where the extension of the biconsonantal root by a third consonant lead to the dominance of the CCVC structure, this structure is represented (on the Semito-Hamitic level) also in the non-derived triconsonantal roots.

When the suffix CV (Ca) is attached to the stem, the stem-final vowel is reduced, if this vowel is the more closed -e; if the stem-final vowel is -a, then the vowel is preserved:

$$\begin{array}{ll} \text{CVCe} + \text{Ca} \rightarrow \text{CVCCa} & \text{CVCCe} + \text{Ca} \rightarrow \text{CVCCCa} \\ \text{CVCa} + \text{Ca} \rightarrow \text{CVCaCa} & \text{CVCCa} + \text{Ca} \rightarrow \text{CVCCaC} \end{array}$$

The reduction of the vowel *e* is reflected in all the compared languages.

## **II. Morphology**

### **Noun declination**

The declinational paradigm was available only in the singular. Adjectives were declined only if they were substantivized and used independently. The nominal paradigm can be reconstructed as the following:

1. nominative-accusative case: -Ø (zero flexion) for the case of the subject and the unmarked object;
2. case of the marked object: -ma; used if the object has to be topicalized in the sentence if the possibility arises for an ambiguous interpretation of the phrase and if a definite object is to be indicated, etc.
3. genitive (connective): -n: the case of a noun standing by another nominal (possessivity, etc.);
4. instrumental -ta: the case of the instrument;
5. local cases: lative -ka, ablative \*-da and essive (locative) -n.

The plural of nouns: It is possible to posit the existence of a special marker for undefined plurality (with count words the base form of nouns was used); this marker was

primarily the formant *\*-t*. With less certainty the existence of a special formant for the oblique form of plural can also be posited in the shape of *\*j*.

### Personal pronouns

The following types of personal pronouns can be postulated for the Nostratic protolanguage:

- 1) independent pronouns – for specifically indicating the pronominal subject.
- 2) forms of the subject standing by a verb: primarily in a position preceding a noun.
- 3) forms of the direct object by a verb: primarily in a position preceding a noun after the form of the subject.
- 4) possessive forms next to nouns: primarily in a position after a noun.

In all these series only the 1<sup>st</sup> and 2<sup>nd</sup> person singular and plural pronouns were represented.

1. Independent pronouns were used with a facultative emphatic element *-na*:  
1<sup>st</sup> pers. sing. *\*ake-na*,  
2<sup>nd</sup> pers. sing. *\*tA-na*  
1<sup>st</sup> pers. plur. *\*naHe-na*  
(2<sup>nd</sup> pers. plur. ? *\*u* crossed out).
2. Forms of the subject by verbs: [1.sg.] *\*a-*, [2.sg.] *\*ta-*, [1.pl.] *\*na-*, [2.pl.] *\*?-*.
3. Forms of the direct object: [1.sg.] *\*mi-*, [2.sg.] *\*k-*, [1.pl.] *?*, [2.pl.] *?*.
4. Possessive forms: [1.sg.] *\*mi-*, [2.sg.] *\*si-*, [1.pl.] *man*, [2.pl.] *san*.

### Non-personal pronouns

Demonstrative pronouns (fulfilling the function of the 3<sup>rd</sup> person pronouns): *\*tä-*, *\*šä-*, *\*mu-*.

Interrogative pronouns: *\*ko* 'who', *\*mi* 'what', *\*ja* interrogative-relative pronoun, ? *\*na*.

### Noun classes

In the system of pronouns an opposition of two noun classes can be observed: agent nouns and object nouns. The interrogative pronoun *\*ko* belongs to the first of these classes, while the interrogative pronoun *\*mi* belongs to the second class.

The marker of the object class in the system of demonstrative pronouns was probably the marker *-t*. It has reflexes in Uralic, Indo-European and Semito-Hamitic, where its use is strongly extended.

### Verbs

The verbal stem in its pure form expressed an order and was used in the quality of the imperative. Besides this form two opposing verbal categories can be reconstructed: one presented a designation of the action itself (transferred to the object in the case of transitive verbs), this was used with the subject pronoun and (in the case of transitive verbs) with the object pronoun. The direct noun object by this verbal form could stand in the marked form; in this case the verbal stem coincided with infinitive stem. The other

### *Basic Features of the Protolanguage*

verbal form was a derived noun ending in *-a* indicating the state of the subject. If the verb was transitive, it contained only the prefix of the subject and in this circumstance the object noun could not be marked and thus always appeared in the subjective-objective case.

Form I (the form of action) is reflected ...

It is also possible to posit for the Nostratic protolanguage the existence of a temporal (or aspectual) distinction between 2 basic verbal categories, which was realized apparently by the help of deictic particles of pronominal origin.

#### **Particles**

A series of negative prepositional particles can be reconstructed: *\*e*, *\*ne*, prohibitive particles *\*ma*, *\*älä*, a postpositive connective or emphatic particle *\*-ka*, the deictic particle *\*-na* used with pronouns.

#### **III. Wordformation**

As earlier mentioned, denominal formations were created with the help of suffixation. Among denominal suffixes we can list *\*-la* (nomina loci), *\*kA* (diminutive), *\*-mta* (comparative), *\*-ja* (possessive, nomina agentis).

Deverbal formations were derived with the help of prefixation: *\*ma-* (nomina agentis, nomina actionis), *\*na-* (adjectives), *\*ta-* (causatives).

#### **Syntax**

Sentence structure can be characterized only in most general terms. In a simple declarative sentence the verb stood in final position (this rule conditioned the position of the subject and object pronouns next to verbs). The direct object preceded the verb. The determining adjective without concordance and the nominal genitive preceded the definite substantive. The form of the object (marked or unmarked) was determined both by the conditions of object deixis and by the nature of the verbal form. Marked object was not allowed when a type II verb form was used.

(Translated from Russian by Irén Hegedűs)



# THE STATUS OF THE PROTO-NOSTRATIC POSTVELAR \*g

Irén Hegedűs

## The reflexes of the PN phoneme \*g.

There are altogether 19 Nostratic etyma containing this postvelar consonant, 11 in initial position and 8 in medial position. 13 etyma were originally reconstructed by Illič-Svityč (1967, 1971-1984), another 5 were proposed by A. Dolgopolsky and 1 was recently added by Václav Bažek (2003). The reflexes of the Nostratic postvelar consonant \*g in the daughter languages are given as the following set of regular correspondences (cf. Illič-Svityč 1971: 149; Dybo 1990: 170):

PNostratic	Afroasiatic	Kartvelian	Indo-European	Uralic	Dravidian	Altaic
*g-	*ġ	*γ	*[ĥ], *h, *h <sup>w</sup>		∅:-	∅:-
*-g-	*ġ	*γ	*[ĥ], *h, *h <sup>w</sup>	*-γ-	:-∅-	:-∅-

**Table 1:** PNostratic \*g and its reflexes according to V.M. Illič-Svityč 1971: 149

Some comments on this correspondence set seem necessary:

1. The phonological specification of PN \*g is given as a postvelar consonant (a stop in Illič-Svityč 1967: 322, but listed simply among postvelars in Illič-Svityč 1971: 149, its phonetic nature is not further described (voiced or voiceless, etc.). Judging by the nature of its reflexes in the daughter languages and its opposition to PNostratic \*q, PNostr. \*g could reasonably be ascribed the feature of voice.
2. In Dravidian and Altaic the colon indicates compensatory lengthening of the neighbouring vowel (loss of \*g in medial position lengthens the preceding vowel, in initial position it lengthens the subsequent vowel), but in Altaic this compensatory lengthening is regularly missing in closed syllables.
3. The Uralic reflex in medial position is the same as in Kartvelian, thus we are faced with a peculiar situation: Uralic shows a “West-Nostratic” type of development rather than the expected “East-Nostratic” feature of losing the postvelar consonant with compensatory lengthening of the neighbouring vowel (as suggested by the regular Altaic and Dravidian reflexes). This seems to be an interesting phonological isogloss running counter the hypothetical east-west dialect split of Nostratic proposed by V. Ivanov (1984: 21-25).

4. The Uralic reflex in initial position is not indicated, which is a peculiar absence challenging an investigation.

The set of correspondences in the daughter languages for Proto-Nostratic \**g* is presented in a somewhat different way by Aharon Dolgopolsky (Dolgopolsky 1998: 103):

PN	AA		Kart.	Indo-European	Uralic	Drav.	Altaic		
	Sem.	Eg.					Tur.	Mon.	Tung.
* <i>g</i> -	* <i>ɣ</i>	ʕ	* <i>ɣ</i>	* <i>h</i> , * <i>h</i> <sup>w</sup> [* <i>h̥</i> ?]	-	-	-	-	-
*- <i>g</i>	* <i>ɣ</i>	H	* <i>ɣ</i>	* <i>X</i> , ? * <i>h</i>	? * <i>ɣ</i>	-	-	-	? * <i>g</i>

**Table 2:** PNostratic \**g* and its reflexes according to Dolgopolsky 1998: 115

Dolgopolsky's opinion slightly differs from the view of Illič-Svityč 1971 because Dolgopolsky identifies the PN phoneme \**g* as a uvular stop. In Dolgopolsky's presentation East-Nostratic seems to be underrepresented, which is not necessarily justified if we consider the data available in the Nostratic Dictionary of V.M. Illič-Svityč. Dolgopolsky's set of correspondences, however, agree with that of Illič-Svityč in respect of the Uralic reflex: there is no Uralic reflex indicated in initial position, while in medial position the Uralic reflex is \**ɣ*, i.e. the same as in Kartvelian, thus in Dolgopolsky's system Uralic also shows a West-Nostratic type of development rather than the expected East-Nostratic feature of postvelar loss with compensatory lengthening.

In Allan Bomhard's approach the set of phonological correspondences is quite different for Altaic, Dravidian and Indo-European. (NB. Bomhard uses the symbol *G* for Kartvelian *ɣ* and also for the Nostratic protophoneme). In Bomhard-Kerns (1994: 501) the following correspondence set is given for Proto-Nostratic \**G*:

PN	AA	Kartv.	IE	Uralic	Dravidian	Altaic	Sumerian	Eskimo
<i>G</i> -	<i>g</i> -	<i>G</i> -	<i>g</i> <sup>[h]</sup> -	<i>k</i> -	<i>k</i> -	<i>g</i> -	<i>g</i> -	<i>k</i> -, <i>q</i> -
- <i>G</i>	- <i>g</i> -	- <i>G</i> -	- <i>g</i> <sup>[h]</sup> -	- <i>ɣ</i> -	- <i>k</i> -	- <i>g</i> -	- <i>g</i> -	- <i>ɣ</i> -

**Table 3:** PNostratic \**g* (= *G*) and its reflexes according to Bomhard and Kerns 1994: 501

Both in this correspondence set and in those of Illič-Svityč or Dolgopolsky the same assumption is made about Kartvelian being archaic and retaining the Nostratic phoneme, so the Nostratic protophoneme is reconstructed as an equivalent to the Kartvelian reflex. However, the rest of the set of correspondences in Bomhard-Kerns 1994 strongly differs from the correspondences proposed by Illič-Svityč or Dolgopolsky: instead of loss with compensatory lengthening, Allan Bomhard supposes the retention of the stop consonant (with loss of voice in initial position in Uralic, Dravidian and

Eskimo, and with lenition to  $\gamma$  in medial position in Uralic and Eskimo). Therefore, with a differently proposed system of reflexation we cannot expect that the evidence in Bomhard's reconstruction would overlap with that of Illič-Svityč or Dolgopolsky. There is, however, one exception. Bomhard compares PIE \*g<sup>h</sup>er- 'to cry' with PKartv. \*Gar-/ \*Gr- (= \*yar-/ \*yr- 'schreien', cf. Fähnrich-Sardshweladze 1995: 385-386) and reconstructs PNostratic \*Gar-/ \*Gær- 'to cry (out), to yell, to shout' (Bomhard-Kerns 1994: 502). The problem with this comparison is that it is based on two West-Nostratic branches only. But even if we are reluctant to accept the relevance of an east-west dialect opposition within Nostratic, it is impossible to ignore the further possibilities of comparing \*gora 'shout' of Illič-Svityč 1967: 345 (cf. point A.5 below). However, this etymology was considered as sound imitative and (therefore?) it was later not included in the posthumously published Nostratic Dictionary of Illič-Svityč.

#### Analysis of the evidence for PN \*g

The evidence for the PN postvelar phoneme \*g both in initial and in medial positions will be surveyed below in a total of 19 reconstructed PN etyma with the purpose of trying to establish its Uralic reflex in initial position and to identify the Indo-European laryngeal reflex(es).

##### A. IN INITIAL POSITION.

A1. \*gaLV 'cereals' attested in Afroasiatic, Kartvelian, Indo-European (Dolgopolsky 1998: 27, #17), where L = l, l' or ɭ. The reconstruction has been labelled as volatile by Vitaly Shevoroshkin partly for the scantiness of the Afroasiatic and Kartvelian data, partly for the problematic nature of Hittite *ḫalki-* 'grain, barley'. This Hittite word can be a non-IE borrowing, perhaps from Proto-Nakh-Dagestanian \*HVIkV 'a kind of grain' (cf. Shevoroshkin 1999: 84-86, referring to Nikolaev 1985: 61, no.7). Starostin states that the notion of cereals is "usually derived from *alēō* 'to grind', the relationship of which to Hittite *ḫalki-* 'grain, crops' is not at all clear" (Starostin 1999: 142), so the alternative that this word is derived from the verbal root cannot be dismissed.

However, the archaic nature of this word in Anatolian is maintained by Craig Melchert, who provides a Proto-Anatolian reconstructed form as \*Halolgi- 'barley, grain' (Melchert 1994: 306). This Proto-Anatolian form seems possible to be compared with Indo-Iranian data: PIr. \*āržana- / \*haržana- < PIIr. \*ārjana- 'millet' (Rastorgueva-Edel'man 2000: 230-231). The Indo-Iranian data can be further supported by a Proto-Nuristani \*(h)arjun- 'millet, *Panicum miliaceum*' that I reconstruct on the basis of the following data: Ashkun *ažũ* (< \*arzun-), Kati *a(w)řĩ*, Waigali *anzũ*, Prasun *ũjũ* (< \*ařũ < \*arjũn-) 'millet' (cf. Morgenstierne 1949: 247, 1954: 226, Degener 1998: 373). Greek *ἄλις* is considered to be an Anatolian borrowing, and the PIE form is specified as \*h<sub>2</sub>β(e)lg(h)- 'grain' (or 'millet'?) by Douglas Adams (Mallory and Adams 1997: 237). He also assumes that the comparison can be extended to Tokharian B *lyekyše* 'millet' if it is from PIE \*h<sub>2</sub>βlēg(h)i-kiō-.

For lack of evidence in any of the East Nostratic branches, however, this Nostratic reconstruction remains dubitable. Unless the reconstruction can be further

strengthened by data from the Uralic family. A possible addition could be Proto-Ugric *\*kšl̥s-éš* ‘millet’ (UEW: 861), although a PU or a PFU form is not available in the absence of data outside the Ugric branch. If this Proto-Ugric form is indeed the reflex of an earlier PU/PFU etymon, it could shed light on the nature of the liquid and the Nostratic reconstructed form could be adjusted as *\*galV*. It should be noted here that PUgric *\*kšl̥s-éš* ‘millet’ cannot be an (Indo-)Iranian loanword because in that case the borrowed form would contain *r* instead of *l*.

In the light of the above said I would suggest the following reconstruction: Proto-Nostratic *\*galV* ‘a kind of cereals (possibly millet, *Panicum miliaceum*)’. The palaeontological background should be investigated to decide if this is a borrowing or not. It is most probable that millet (*Panicum miliaceum*) appeared as a cultivated grain in a primaeval Asian centre and its use must have spread to Europe “as early as the Neolithic, having entered via Central Asia, the northern Black Sea area, and the Balkans” (Gamkrelidze and Ivanov 1995: 568).

- A2. ? *\*galpa* ‘weak, powerless’ attested in Altaic *\*alba-* ‘unable (< weak)’, Indo-European *\*help-* ‘weak’ and ?Kartvelian *\*yalp-* ‘weak’ (Illič-Svityč 1971: 239-240, #96), while in his earlier *Materialy* Illič-Svityč proposed *\*(g)alpa* with an uncertain initial postvelar (Illič-Svityč 1967: 365).

The Proto-Altaic reconstructed form is to be corrected as *\*ālpa-*, for which the attested branches include Korean and Japanese as well: PKorean *\*ārphǎ-* ‘to be ill’, PJapanese *\*apar-* ‘to pity’ (cf. Starostin-Dybo-Mudrak 2003: 289-290). The Altaic form shows the expected absence of compensatory lengthening in closed syllable. The consequence of this correction also forces the adjustment of the PN form: it is necessary to replace the voiceless labial stop by a glottalized labial stop, so we arrive at PN *\*galpʰa*, but this may still be far from confirming the status of this Nostratic form. Being aware of the difficulties of reconstruction both in the Indo-European and in the Kartvelian branches, Illič-Svityč himself considered the Nostratic protoform uncertain. The reconstruction of a PIE *\*h<sub>a</sub>elpos* ‘weak’ (where *\*h<sub>a</sub>* = *\*h<sub>2</sub>* or *\*h<sub>4</sub>*) is far from convincing because the etymological material traditionally adduced under this reconstruction has been analysed as belonging to different entries (Mallory and Adams 1997: 528). The origin of OInd. *ālpa-* ‘small’ has not yet been sufficiently clarified (Mayrhofer 1986: 129), Hittite *alpu-* is alternatively derived from PIE *\*[p-ú-// \*]bʰ-ú-* (Hamp 1989: 21). So this Nostratic comparison cannot be decisive evidence in the investigation of the postvelar *\*g*.

- A3. ? *\*garķu* ‘bend/curve’: attested in Kartvelian *\*γrek(w)-* ‘bend; twist’ and Indo-European *\*herkʷ-* ‘bent, flexible’, the reconstruction is questioned for lack of East Nostratic cognates (Illič-Svityč 1971: 240, #97). Earlier Illič-Svityč proposed the form with uncertain vocalism as *\*garķa* (Illič-Svityč 1967: 336). The vocalism of the second syllable was established on the basis of the PIE labiovelar stop and the probable *w* in the Kartvelian etymon. The PIE form is now reconstructed as *\*h<sub>a</sub>érkwos* ‘bow and arrow’, so the laryngeal is either *\*h<sub>2</sub>* or *\*h<sub>4</sub>*. Although the word is a western isogloss in Indo-European, it is assumed that the “bow and arrow must



have been known to the Proto-Indo-Europeans irrespective of the homeland localizations" (Mallory and Adams 1997: 78). The Latin *arcus* 'arch, bow' points to \**h*<sub>2</sub>, so Peter Schrijver reconstructs PIE \**h*<sub>2</sub>*erk*- or \**h*<sub>2</sub>*erk**u*- (Schrijver 1991: 46, 67). I suppose that Illič-Svityč was right to suppose that the primary meaning was 'bend, curve' and the word was later specialized to refer to the hunting tool (consisting of two parts).

A possible addition form Uralic could be PU \**kur*<sup>6</sup> 'krumm, schräg, schief; krümmen, schräg oder schief machen' (UEW: 220) that is reflected by forms like Votyak *kiriž* 'krumm, gebogen', Ostyak *χor* 'Flußstrecke, Flußkrümmung', etc.; Samoyedic (Yurak) *χara* 'krumm, schief; Flußbiegung', Kamass *kara*- 'sich winden, sich ringeln', Selkup *ķārukkai* 'schief', etc. This comparison is feasible if Proto-Nostratic \**gar**ku* derives from an earlier \**gar*(*V*)*ku*.

- A4. \**gaw**V* // *γaw**V* 'wild sheep/goats' or 'wild game' attested in Afroasiatic (as in Egyptian *ʿw.t* 'Kleinvieh'), in Indo-European \**howi*- 'sheep', Altaic \**āb**V* 'wild game, hunt' (Dolgopolsky 1998: 44, #42), with an uncertain initial consonant.

The PIE form can be more specific as \**h*<sub>2</sub>*ówis* (Mallory and Adams 1997: 510), although Sihler indicates \**H*<sub>3</sub>*ewis* (Sihler 1995: 313).

A possible Uralic reflex can be added: PU \**kewe* 'female of a wild animal', in Samoyedic the meaning seems to have narrowed down to 'female of birds' but the more general meaning of '(Tier)weibchen' is also attested in Samoyedic. In Finno-Ugric it usually refers to the female reindeer (cf. UEW: 152). Whether this etymon can be connected with Proto-Samoyedic \**kejwe* (as suggested by E.A. Helimsky, personal communication Sept. 4, 2003) and ultimately derived from PU \**käδ*'*wä* 'female' (cf. also Janhunen 1977: 66-67) is open to further discussion.

- A5. \**gor**A* 'shout' is labelled descriptive by V.M. Illič-Svityč. His data cover five Nostratic branches: Indo-European \**H*<sup>w</sup>*er*- 'shout, call out', Altaic \**ory*- 'call' (> Evenki *ori*-; Mongolian *oril*-), Dravidian \**ār*-/*āṭ*- 'shout', Kartvelian \**γalr*- 'sing, shout', Afroasiatic \**gr*- (> Semitic: Mahri *garôy* 'speak', Cushitic: Afar *hòrrā* 'singing') (Illič-Svityč 1967: 345).

This comparison was not included in the posthumously published Nostratic Dictionary, although there are several etymologies included in the dictionary marked as sound imitative. These data can be relevant addenda to reflexes of Proto-Nostratic \**Gar*-/*\*Gər*- 'to cry (out), to yell, to shout' as reconstructed by Bomhard and Kerns (1994: 502). Illič-Svityč gave a PIE reconstructed form already with an initial laryngeal (but he referred to the Pokorny dictionary, where the etymon is given without the laryngeal, of course, as \**ōr*-, \**ər*- 'reden, rufen' (IEW 781). This root has been updated now as \**h*<sub>1</sub>*u**er*- 'ask the gods, consult an oracle' (Mallory and Adams 1997: 450). But instead of this root, another Indo-European form seems a better match: PIE \**h*<sub>2</sub>*eru*- '± pray, curse', which yields Greek *ἀράομαι* 'pray, vow; call down curses', Proto-Anatolian \**h*<sub>2</sub>*ērut*- > Luvian *hīrūt* 'curse' (Mallory and Adams 1997: 450).

- A6. \**gotḲelgatḲe* ‘popliteal space (back of the knee), armpit’ attested in Afroasiatic, ?Indo-European, Altaic (Dolgopolsky 1998: 83, #107).

Sergei Starostin commented on this etymology that “the Altaic and Indo-European forms point rather to \**HolaḲE* (Starostin 1999: 153). Indeed the corresponding PIE form is \**h<sub>a</sub>eḱs-* ‘shoulder(-joint), axle’ from which the Germanic and Latin cognates have derivatives meaning ‘armpit’ (Mallory and Adams 1997: 516). The Latin *āla* ‘joint of a wing, arm; wing’ < PIE \**h<sub>2</sub>eḱs-*, while Latin *axis* ‘axle’ < PIE \**h<sub>2</sub>eḱsi-* (Schrijver 1991: 40, 48), so \**h<sub>a</sub>* is most likely to be identified as \**h<sub>2</sub>*.

- A7. \**gud* ‘to bind’: Indo-European \**Hewdh-/Hwedh-* ‘to bind; tie, strap’, Kartvelian \**γwed-* ‘strap’, Altaic \**ūd* ‘to tie with a strap’ (Illič-Svityč 1967: 364). This etymology was not included in the Nostratic Dictionary.

The PIE form probably had a laryngeal initial as it is assumed by Manfred Mayrhofer: Proto-Indo-Iranian \*(*H*)*wad<sup>h</sup>*- ‘lead, marry’ (EWA II: 497-498). On the basis of Anatolian evidence the laryngeal is considered to be *h<sub>2</sub>* and the PIE form is updated as \**h<sub>2</sub>wedh<sub>2</sub>-* ‘to lead’ > PAnatolian \**Hwet-* ‘pull, draw’ (Melchert 1994: 100). The PIE form is posited as \**h<sub>2</sub>wed(h<sub>2</sub>)-* ‘to lead, take to wife’ by Mallory and Adams (1997: 346), noting that the semantic development of the marriage connotation is not attested in Anatolian, so probably it can be considered secondary (perhaps from the tradition of binding the hands of the married couple often with a strap or a ribbon). Elsewhere the PIE reconstruction of this root, however, is given without a laryngeal (cf. Rix et al. 2001: 659, fn.1.).

- A8. \**gul* ‘to fight/destroy’. This etymology was proposed by Václav Blažek (2003: 14, no.18) on the basis of comparing Afroasiatic: Arab *√g-w-l* ‘to kill, perish’, etc., East-Cushitic \**col-* ‘war’; PIE \**Hwol-*: Hittite *hullāi* ‘to smite, destroy’, Greek *ὄλλωμι* ‘destroy’, Lat. *ab-oleō* ‘id.’; Dravidian \**ul-* ‘to ruin, perish, be waisted’.

The identification of the PIE laryngeal is difficult. While the PIE form is reconstructed by Andrew Sihler as \*(*H*)*elH<sub>3</sub>-* (Sihler 1995: 500), it appears as \**h<sub>3</sub>elh<sub>1</sub>-* ‘destroy’ in Mallory and Adams (1997: 158). At the same time Craig Melchert gives the alternative PIE \**h<sub>2/3</sub>wl<sub>1</sub>-né-h<sub>1</sub>-* > Hittite *hulle-* ‘fight’ (Melchert 1994: 55, 82).

The etymology could perhaps be extended to the Uralic branch, although comparanda are available only in Finno-Ugric languages: Hungarian *hull-* ‘to fall; to die (of animal)’, Vogul *kol-* ‘to end, perish, to be destroyed’, Finnish *kulu-* ‘to pass (by), to exhaust’, etc. < PFU \**kulʒ<sup>1</sup>*- ‘ein Ende nehmen, enden, vergehen, aufhören’ (UEW 199-200).

- A9. \**guru* ‘flow, pour’ attested in Afroasiatic \**ḡwr* ‘deep water’, Kartvelian \**γwar-* ‘to pour; flood’, Dravidian \**ūr-* ‘melt, fuse’, Altaic \**ūRu-* ‘flow’ (Illič-Svityč 1971: 240-241, #98), earlier reconstructed with uncertain vowel in the second syllable as \**gur* (Illič-Svityč 1967: 341).

It seems plausible to extend this comparison to Finno-Ugric (Uralic?) if we compare PFU \**kurʒ<sup>3</sup>* ‘Vertiefung, vom Wasser ausgegrabener Hohlweg, Pass

zwischen Bergabhängen' (UEW: 217-218). The semantic core includes the notion of flooding water cutting a deep path, hole by washing away soil, rocks. If this comparison is accepted, the Nostratic protoform enables us to identify the uncertain vowel of the second syllable in the PFU form most probably as *u*, so the adjusted form is suggested as PFU \**kuru*. This adjustment has the merit of reducing the high degree of protoform homonymy (cf. \**kurɜ*<sup>1-9</sup> UEW 216-222), which is the consequence of the uncertain vowel quality of the second syllable.

Furthermore, an Indo-European cognate is also probable: Latin *rīvus* 'brook, stream', OInd. *riṇāti* 'lets flow' PIE \**h<sub>3</sub>riH-* or \**h<sub>3</sub>reiH-* (Schrijver 1991: 24), Hittite *ār(a)šzi* 'flows' (Melchert 1994: 125,166). These forms together with \**h<sub>1</sub>ers-* 'flow' could be enlargements of the root \**h<sub>1</sub>er-* 'set in motion' (Mallory and Adams 1997: 206).

- A10. \**gama* 'dark, night': Afroasiatic \**gm* 'dark', Kartvelian \**gam-(e)* 'night' (Illič-Svityč 1967: 368, 1971: 241, #99).

Both a Finno-Ugric and an Indo-European parallel could be added to this Nostratic etymon:

PFU \**kumɜ* 'cloud' (UEW:204), where the semantic reconstruction is not quite precise because from the data of the FU daughter languages suggest that the notion is rather darkness caused by a cloud covering the light, cf. especially Hungarian *homály* 'darkness, murk', Old Hung. 'fog, dark rain cloud'. It is also possible that the PFU meaning 'cloud' is the result of a secondary development from a PU meaning 'darkness'. This comparison would allow for the precision of the reconstructed Nostratic vocalism as PN \**guma*.

PIE \*(*h<sub>a</sub>*)*merh<sub>xg</sub>*- 'dark' (Mallory and Adams 1997: 147). The initial laryngeal is likely to have been \**h<sub>2</sub>* as it is given by Jens E. Rasmussen: PIE \**h<sub>2</sub>m<sub>r</sub>g<sup>w</sup>*- > Gk. *ἀμόρφης* 'dunkelfarbig' (Rasmussen 1989: 190).

- A11. \**gara* 'pig, wild boar' [descriptive] attested in Afroasiatic \*/g/r/ 'wild boar' (with reference to L. Rheinisch<sup>40</sup> and A. Trombetti<sup>41</sup>, Kartvelian \**gor-* 'pig' (Illič-Svityč 1967: 363), referring to Klimov's etymological dictionary, where we find Proto-Kartvelian \**gor-* pig > Georgian *gor-*, Megrel *yež*, Chan *yež* 'pig' (Klimov 1964: 205). Not listed in the Nostratic Dictionary (Illič-Svityč 1971-84). I have not managed to add further details to confirm or to extend the comparanda. PIE \**ǵ<sup>h</sup>or-* 'young pig' (Mallory and Adams 1997: 425) cannot be a cognate of the comparanda above because PIE \**ǵ<sup>h</sup>* would be a regular correspondence to Kartvelian \**g*. So this leads us to supposing a borrowing a process, the direction of which needs to be investigated.

<sup>40</sup> *Sitzungsberichte der kaiserliche Akademie der Wissenschaften in Wien* Bd. 113: 858-859.

<sup>41</sup> *Elementi di glottologia*. Bologna, 1923, p. 186.

B. IN MEDIAL POSITION.

- B1. *\*bur(g)A* 'storm' attested in Indo-European *\*b<sup>h</sup>e(u)r-*, Altaic *\*bur(g)a* 'blizzard, storm', Uralic *\*purkA* 'blizzard', Kartvelian *\*buryw-* (Swan *burywīna* 'snowstorm'), ?Afroasiatic *\*br-* 'storm, wind' (Illič-Svityč 1967: 332). Later in the Nostratic Dictionary the Kartvelian evidence was dropped, so Proto-Nostratic form is reinterpreted without the postvelar as *\*burA* 'snow (sand) storm' (Illič-Svityč 1971: 188-190, #23). Thus the PU form is cited as *\*purA* 'to blow (snow)' ~ *\*purkA* 'snowstorm'. Since Uralic *\*-k-* cannot be a regular reflex of Proto-Nostratic *\*-g-*, we need to assume that from the *\*purkA* is a specific Uralic development, perhaps an early derivation because there seems to be sufficient support for a Proto-Uralic *\*purki* 'smoke, spray, blizzard' that yields Samoyedic forms like Selkup *purqī* 'smoke', *purqāt* 'blizzard' (Aikio 2002: 25). However, UEW mentions *\*purkə* 'Schneegestöber; stöbern' as a Finn-Permic or a questionable Uralic form (UEW 406) and labels it onomatopoeic.

The semantic development proposed by Illič-Svityč is perfectly feasible. He thought that the original meaning was probably 'wind carrying sand or snow' that later specialized in the daughter languages depending on the climate zone where the speakers settled. To the IE evidence listed by Illič-Svityč we can add Albanian *bórlë* 'snow' and its derivatives *borínë* 'Pulverschnee', [dialect] *bórlë* 'Nordwind', etc. (Demiraj 1997: 106-107).

The Altaic protoform was given by Illič-Svityč as *\*burA/bora* '(snow)storm', the new Altaic etymological dictionary has *\*bóru* 'dust; smoke, whirlwind' (Starostin-Dybo -Mudrak 2003: 375).

- B2. *\*bAga* 'sufficient, excessive': Afroasiatic *\*bġ-* 'be excessive', Kartvelian *\*bey-* 'be sufficient' (Illič-Svityč 1967: 348, Illič-Svityč 1971: 193, #28).

Maybe the comparison can be extended to Indo-European: OInd. *bhāga-* 'Wohlstand, Glück, Besitz, Vermögen' (Mayrhofer EWA 2: 239-240), Avestan *baga-* 'good fortune, share', Tokharian A *pāk*, Tokharian B *pāke* 'share, part', if the PIE root indeed contained either *\*h<sub>2</sub>* or *\*h<sub>4</sub>* as proposed by the reconstruction PIE *\*b<sup>h</sup>eh<sub>2</sub>g-* 'apportion' (Mallory and Adams 1997: 211).

- B3. *\*dIga* 'bright': Kartvelian *\*(s)A-dy-e* 'day', PIE *\*d<sup>h</sup>eih-l<sup>h</sup>ieh-* 'to see' [< 'visible' < 'bright'] (Illič-Svityč 1971: 221, #70).

The Albanian form *di* 'to know' was listed by Illič-Svityč with a question mark. Bardhyl Demiraj suggests that the Albanian present stem is from a PIE zero grade form *\*d<sup>h</sup>iH-m<sub>1</sub>*, and the participle *ditë* goes back to the PIE *\*d<sup>h</sup>iH-to-* (Demiraj 1997: 132-133). Václav Blažek suggested the comparison of this Indo-European etymon rather with Proto-East-Cushitic *\*dey-/doy-* 'to look at' and perhaps with PFU (?) *\*taje-* 'consciousness, sense' (Blažek 1989: 204, #70). This Nostratic lexeme needs further verification, its present state does not allow for obtaining evidence for the nature of the Indo-European or Uralic reflexes of *\*-g-*.

- B4. ? \**purčA(gA)* / \**pülčA(gA)* 'flea' attested in Afroasiatic \**p<sub>1</sub>rgt* / \**brgt* 'flea, mosquito', Indo-European \**b<sup>h</sup>lus-* / \**plus-* 'flea', Altaic \**pürägä* / \**bürägä* / ? *pürčä* 'flea' (Illič-Svityč 1976: 99-100, #338).

The most striking feature in this comparison is the widespread alternation of voiced and voiceless initials. This *b* ~ *p* instability is frequently seen both in the Indo-European and in the Kartvelian reflexation of Proto-Nostratic \**p* either in initial or in medial position in other etymologies. Furthermore, metathesis frequently occurs in the daughter languages. These phonological characteristics may point to the sound imitative nature of this word (as Illič-Svityč himself suspected).

This entry was enlarged by later additions: Afroasiatic (Berber, East and South Cushitic and Central Chadic) parallels were found by Václav Blažek (1990: 213). He also added Proto-North-Samoyedic \**pil(č)V* 'gad-fly' that is compared with Proto-Ob-Ugric \**pēlēm* 'id.' from PU \**p<sub>1</sub>řz* 'gad-fly' (UEW 416). Recently, however, the Uralic parallel was regrouped by Blažek with other Afroasiatic and Altaic materials and a new Nostratic etymon for 'flea' was proposed: Proto-Nostratic \**p<sup>o</sup>li* 'louse / flea / fly' based on Afroasiatic data from Semitic, Egyptian, Omotic, Chadic, on Proto-Uralic \**pälä* 'horsefly' (= \**p<sub>1</sub>řz* 'Bremse', UEW 416), and on Proto-Altaic \**p<sub>1</sub>joli* 'fly, midge' (Blažek 2003: 18, no.48). This new Nostratic form does not totally disqualify the Nostratic entry by Illič-Svityč, for which the Altaic etymon can be restated as \**bjure* 'flea' > Proto-Turkic \**bürčel*/\**bürge*, Mongolian *bürge*, Korean \**pjərók* (Starostin - Dybo - Mudrak 2003: 363). But Altaic \**bjure* requires the reinterpretation of the Nostratic initial stop as voiced labial. In this case a voiced aspirated labial is expected for the Indo-European cognate, so PIE \**b<sup>h</sup>luseh<sub>a</sub>-* 'flea' (Mallory - Adams 1997: 206) is acceptable, but its variants like \**blusáh<sub>2</sub>-* (Rasmussen 1989: 169) or \**plusáh<sub>2</sub>-* are not regular in their initial consonants. The Afroasiatic etymological data also need reconsideration and sifting if the form \**purčA(gA)* is to be modified to \**burčA(gA)*. The hypothetical morpheme -*gA* is still uncertain but it could be the source for the stem final laryngeal in PIE.

- B5. \**p<sup>c</sup>algV* 'fortified settlement' attested in Afroasiatic \**bIH* (<\**plg* ?) 'settlement, village', Indo-European \**p<sub>1</sub>H-* 'fortified settlement, fortress, town', Uralic \**palγV* 'settlement, village', Dravidian \**palli* 'settlement, building, temple', Altaic \**palagV* 'town, fortress, building' (Illič-Svityč 1984: 89-93, #368). The earlier version of the reconstruction was \**p<sup>c</sup>al(g)V* without data from Afroasiatic (Illič-Svityč 1967: 356).

The Indo-European reconstructed form may be \**p<sub>1</sub>h<sub>1</sub>-* > OInd. *púr-* 'Wall aus Stein und Lehm, Verschanzung, Palisade' (EWA 2: 145), although Sihler, discussing Greek πόλις 'city' remarks that "*H<sub>1</sub>* specifically is a surmise" in the Vedic form (Sihler 1995: 104). According to UEW (351-352) the Uralic evidence is traceable to Proto-Ugric only (or perhaps to Proto-Finno-Ugric at best).

The Altaic reconstruction is \**p<sub>1</sub>ǎlagV* 'fortress, group of houses' based on evidence in Turkic, Mongolian, Tungusic and Japanese (Starostin - Dybo -Mudrak 2003: 1008).

- B6. *\*ʃul(i)gV*- 'to spread like a net, to catch with a net' attested in Afroasiatic [Semitic *\*ʃl ʃ* or *\*ʃl ʃ* 'spread like a net', Egyptian *ʃ* 'to catch (fish)'], Kartvelian *\*tʃewl*- 'to fish by net', Finno-Ugric *\*tulV* 'drag-net', Altaic *\*tʃuE* with different meanings such as 'to hobble', 'to cast (a fishing net)', Dravidian *\*tulV* 'weaver' (Dolgoplsky 1998: 37-38, #30).

This etymon does not show the expected intervocalic *ɣ* in Uralic (Finno-Ugric) and it but has no Indo-European equivalent, so it cannot be indicative for the specification of the expected IE laryngeal reflex. The reconstruction of the Nostratic postvelar is highly uncertain (cf. also Starostin 1999: 143).

- B7. *\*zega* 'to eat': PIE *\*seH-* 'fed', Altaic *\*ʒē-* 'to eat', Uralic *\*sē/ɣ/e*, and questionably Kartvelian *\*ʒeɣ-/ʒɣ-* 'to eat a lot' (Illič-Svityč 1967: 340) [not listed in the Nostratic Dictionary]. Illič-Svityč considered the Kartvelian form ambiguous because the initial consonant does not fit the regular correspondence. However, if the Proto-Nostratic reconstruction is reconsidered as *\*ʒeya*, the Kartvelian evidence fits into the earlier established correspondence set. Altaic shows the expected compensatory lengthening of the root vowel (see also Starostin-Dybo-Mudrak 2003: 1530f).

The extension to the Indo-European branch is possible by adding PIE *\*seh<sub>2</sub>(i)-* 'satisfy, fill up' (Mallory - Adams 1997: 500), where the laryngeal is reflected in Hittite *sāh* 'stuff full, clog up' and also in the intonation of Lithuanian derivative *sótis* 'satiety' < PIE *\*seh<sub>2</sub>-ti-* (Schrijver 1991: 98).

For a further extension to Uralic PFU *\*sewe-/seye-* 'essen' (UEW: 440) can be considered, where the second alternative shows regular correspondence with the Proto-Nostratic form. Yukaghir *leu-*, *leg-*, *lāg-* 'to eat' is also listed in the UEW (ibid.). I suppose that the development was a gradual lenition process Proto-Nostratic *\*zega* > Proto-Uralic *\*seye-* > Proto-Finno-Ugric *\*sewe-*.

- B8. *\*ʒugbV*- 'fig tree', where initial *ʒ* = *z* or *ž*, is reflected in Afroasiatic [Semitic *\*ʒ ʃb*, Central Chadic (Gladva *acúwa* 'fig tree'), ? Egyptian *bʃb*], and in Dravidian *\*cuv-* 'fig tree' (with widespread reflexes) (Dolgoplsky 1998: 51, #54).

No Indo-European or Uralic parallels have been found so far. The etymon may be confined - as a late emerging innovation - to the southern Nostratic area.

## Conclusions

On the basis of the limited number of available data for the reflexes of PN *\*g* only a working hypothesis can be formulated concerning the Uralic and Indo-European reflexes of this consonant:

i. The evidence for the Uralic reflexes in medial position is meagre but it seems most likely to have been *\*ɣ*, as earlier assumed by V.M. Illič-Svityč 1971, Dolgoplsky 1998, and Bomhard-Kerns 1994. The missing Uralic reflex in initial position, I suppose, could be posited as *\*k*. This means that the PN postvelars *\*q* and *\*g* have merged in Uralic, by way of PN *\*q*- > PU *\*k*- converging with PN *\*g*- > Pre-PU *\*g* > PU *\*k*-, while in medial position the phonological opposition remained because PN *\*-q*- > PU *\*-kk*-, but PN *\*-g*- > Pre-PU *\*-g*- > PU *\*-ɣ*-. This fits into the general tendency in Uralic to

neutralise the Proto-Nostratic opposition of glottalization and voice in the stop series in initial position and to maintain the Nostratic voice distinction medially.

ii. The Indo-European reflexes tend to show a dominant (?) occurrence of \*h<sub>2</sub>. If the correspondence between PIE laryngeal and Proto-Uralic initial \*k and medial \*γ is regular, and the bulk of evidence is accepted sufficient for a "Lautgesetz", then Koivulehto's thesis of «laryngeal substitution» by k in Finno-Ugric borrowings from Indo-European (Koivulehto 1991) appears to be an understatement which does not distinguish between more archaic and less archaic lexical layers. PIE laryngeals in initial position. It is essential to bear it in mind that «laryngeal substitution» as a principle of identifying Uralic/Finno-Ugric loanwords from Indo-European cannot be used in the case of those etymologies where the PU-PIE parallels have further comparanda in Altaic, Dravidian, Kartvelian or Afroasiatic.

With the publication of Aron Dolgopolsky's Nostratic Dictionary the number of etymologies containing PN \*g can be expected to increase by ca. 50%. Perhaps it will be worthwhile to revisit the working hypothesis put forward here and now.

## References

- Aikio, Ante. 2002. "New and Old Samoyed Etymologies". *Finnisch-Ugrische Forschungen* 57: 9-57.
- Blažek, Václav. 1989. "Lexica Nostratica: Addenda et Corrigenda I". *Archív Orientální* 57/3: 201-210.
- Blažek, Václav. 1989a. "Paralelní procesy ve vývoji indoevropského a afrasijského kořene" [Parallel Processes in the Development of the Indo-European and Afroasiatic Roots]. *Jazykovédné Aktuality* 26.1/2: 28-33.
- Blažek, Václav. 1990. "Lexica Nostratica: Addenda et Corrigenda II". *Archív Orientální* 58/3: 205-218.
- Blažek, Václav. 2003. "Lexica Nostratica Addenda". *Mother Tongue* VIII: 11-22.
- Bomhard, Allan R. and John C. Kerns. 1994. *The Nostratic Macrofamily: A Study in Distant Linguistic Relationship*. Berlin, New York, NY, and Amsterdam: Mouton de Gruyter.
- Degener, Almuth. *Die Sprache von Nisheygram im afghanischen Hindukush*. [Neuindische Studien 14.] Wiesbaden: Harrassowitz.
- Demiraj, Bardhyl. 1997. *Albanische Etymologien*. Amsterdam - Atlanta GA: Rodopi.
- Dolgopolsky, Aharon. 1998. *The Nostratic Macrofamily and Linguistic Palaeontology*. Cambridge: The McDonald Institute for Archaeological Research.
- Dybo, Vladimir A. 1990. "Comparative-phonetic tables for Nostratic reconstructions". In: *Proto-Languages and Proto-Cultures*. Ed. by Vitaly V. Shevoroshkin. Bochum: Brockmeyer, pp. 168-175.
- EWA = Mayrhofer 1986
- Fähnrich, Heinz and Surab Sardshweladze. 1995. *Etymologisches Wörterbuch der Kartwel-Sprachen*. Leiden-New York-Köln: E.J. Brill.
- Gamkrelidze, Thomas V. - Vjačeslav V. Ivanov. 1995. *Indo-European and the Indo-Europeans. A Reconstruction and Historical Analysis of a Proto-Language and a Proto-Culture*. Berlin - New York: Mouton de Gruyter.
- Hamp, Eric. 1989. "Hittite *alpu* and *dampu*." *Historische Sprachforschung* 102/1: 21-22.



- Illič-Svityč, Vladislav M. 1967. "Materialy k sravnitel'nomu slovarju nostratičeskix jazykov" [Materials for a comparative dictionary of Nostratic languages], In: *Etimologija* 1965, Moskva: Nauka, pp. 321-373. (English translation published as "Early Reconstructions of Nostratic", in: V.V. Shevoroshkin (ed.), *Reconstructing Languages and Cultures*. Bochum: Brockmeyer, 1992, pp. 125-176)
- Illič-Svityč, Vladislav M. 1971. *Opyt sravnenija nostratičeskix jazykov. Vol.I*. Moskva: Nauka.
- Illič-Svityč, Vladislav M. 1976. *Opyt sravnenija nostratičeskix jazykov. Vol.II*. Moskva: Nauka.
- Illič-Svityč, Vladislav M. 1984. *Opyt sravnenija nostratičeskix jazykov. Vol. III*. Moskva: Nauka.
- Ivanov, Vjačeslav V. 1984. "O predpolagajemyh sootnošenijah meždu vostočno-nostratičeskimi (altajskie, ural'skij, dravidijskij) i zapadno-nostratičeskimi (indoevropskij, kartvel'skij afrazijskie) jazykami. [On the conjectured connections between East-Nostratic (Altaic, Uralic, Dravidian) and West-Nostratic (Indo-European, Kartvelian, Afroasiatic) languages.] *Lingvističeskaja rekonstrukcija i drevnejšaja istorija Vostoka* vol. 5: *Problemy izučenija nostratičeskix makrosemyj jazykov*. Pp. 21-25. Ed. by I. F. Vardul' et al. Moskva: Nauka.
- Janhunen, Juha. 1977. *Samojedischer Wortschatz. Gemeinsamojedische Etymologien*. Helsinki.
- Klimov, Georgi A. 1964. *Etimologičeskij slovar' kartvel'skix jazykov*. Moskva: Institut jazykoznanija Akademiji nauk.
- Koivulehto, Jorma. 1991. *Uralische Evidenz und die Laryngalthetheorie*. Wien: Österreichische Akademie der Wissenschaften.
- Mallory, James P. - Douglas Q. Adams (eds.). 1997. *Encyclopedia of Indo-European Culture*. London - Chicago: Fitzroy Dearborn Publ.
- Mayrhofer, Manfred. 1986. *Etymologisches Wörterbuch des Altindoarischen*. Band 1-2. Heidelberg: Carl Winter Universitätsverlag.
- Melchert, Craig. 1994. *Anatolian Historical Phonology*. Amsterdam-Atlanta, GA: Rodopi.
- Morgenstierne, Georg. 1929. "The Language of the Ashkun Kafirs", *Norsk Tidsskrift for Sprogvidenskap* 2: 192-289.
- Morgenstierne, Georg. 1949. "The Language of the Prasun Kafirs", *Norsk Tidsskrift for Sprogvidenskap* 15: 187-334.
- Morgenstierne, Georg. 1954. "The Waigali Language", *Norsk Tidsskrift for Sprogvidenskap* 17: 146-324.
- Nikolaev, Sergei L. 1985. "Severokavkazskije zaimstvovanija v hettskom i drevnegrečeskom". In: *Drevnaja Anatolija*. Ed. by B.B. Piotrovskij, V.V. Ivanov and V.G. Ardzinba. Moscow: Nauka, pp. 60-73.
- Rasmussen, Jens E. 1989. *Studien zur Morphophonemik der indogermanischen Grundsprache*. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck. [Innsbrucker Beiträge zur Sprachwissenschaft Bd. 55]
- Rastorgueva, Vera S. – Džoi I. Edel'man. 2000. *Etimologičeskij slovar' iranskix jazykov*. [Etymological Dictionary of the Iranian Languages] Vol.1: *a-ā*. Moscow: Vostočnaja literatura.



- Rix, Helmut et al. 2001. *Lexikon der indogermanischen Verben: Die Wurzeln und ihre Primärstammbildungen*. (2<sup>e</sup>, erweiterte und verbesserte Auflage). Wiesbaden: Reichert.
- Schrijver, Peter. 1991. *The Reflexes of the Proto-Indo-European Laryngeals in Latin*. Amsterdam - Atlanta, GA: Rodopi.
- Shevoroshkin, Vitaly V. 1999. "Nostratic languages: internal and external relationship". In: *Nostratic: Examining a Linguistic Macrofamily*. Ed. by Colin Renfrew and Daniel Nettle. Cambridge: The McDonald Institute for Archaeological Research, pp.75-91.
- Sihler, Andrew L. 1995. *New Comparative Grammar of Greek and Latin*. New York - Oxford: Oxford University Press.
- Starostin, Sergei. 1999. "Subgrouping of Nostratic: comments on Aharon Dolgopolsky's *The Nostratic Macrofamily and Linguistic Palaeontology*". In: *Nostratic: Examining a Linguistic Macrofamily*. Ed. by Colin Renfrew and Daniel Nettle. Cambridge: The McDonald Institute for Archaeological Research, pp.137-156.
- Starostin, Sergei A. - Anna V. Dybo - Oleg A. Mudrak. 2003. *An Etymological Dictionary of Altaic Languages*. Leiden: Brill.
- Steblin-Kamenskij, Ivan M. 1982. *Očerki po istoriji leksiki pamirskix jazykov. Nazvanija kul'turnyx rastenij*. [Studies in the lexical history of Pamir languages. Names of cultivated plants.] Moskva: Nauka.
- UEW = *Uralisches etymologisches Wörterbuch I-III*. Ed. by Károly Rédei. Budapest: Akadémiai Kiadó, 1986-1991.



## CONFLICTING THEORIES OF THE ORIGINS OF YIDDISH: POSSIBLE LESSONS FOR NOSTRATIC METHODOLOGY

Robert D. King

Except for languages formed in modern memory — like some pidgins and creoles — the origins of a language are almost always veiled in mystery.<sup>42</sup> Conjecture and knowledgeable guesswork are the norm. If we are lucky we have at least a few solid facts and a comforting convergence of theories about origins that come from years of fact-gathering and scholarship centered on the study of a language's past. With the Yiddish language we are not lucky. Texts from the crucial periods are scanty and their interpretation often mired in controversy. Yiddish linguistics as a field is relatively new compared with the study of other Indo-European languages. There has not been time for conflicting theories to have come to rest ensconced somewhere in a textbook "history of the language."

But that is only part of the story. Yiddish linguistics, like the Yiddish language itself, carries on its back a pack of sorrows (*a pekl tsores* is a Yiddish trope). For most of its history Yiddish has been one of those languages that get no respect. It bears the stigma of "inferiority": Yiddish is bad German; Yiddish has no grammar; Yiddish is not suitable for higher discourse; Yiddish sounds bad — "half animal," one Jewish historian called it; Jews should speak Hebrew; Jews should speak Polish, Romanian, Russian, or English — whatever. As long as people, even educated people who really should know better, feel about a language that it somehow isn't *really* a language, is not to be taken seriously, is "inferior," then the linguistics of that language will always be slow developing and often amateurish. History has been no kinder to Yiddish linguistics or to the Yiddish language than it has to the Jewish people themselves.

The men who created Yiddish linguistics — Lazar Saineanu, Alfred Landau, Ber Borochoy, Matisyohu Miseses, Noyakh Prilutski, Solomon Birnbaum, Jechiel Bin-Nun, Max Weinreich, Uriel Weinreich — produced good and often first-rate linguistic research, and not infrequently under impossible circumstances summed up in the word "anti-Semitism" — Jew hate. Rare indeed was the Yiddish scholar in the early years who could simply work on his stuff, as I am doing as I write this, without having to worry about that ominous crowd noise outside in the streets. While the fathers of Yiddish linguistics accomplished a great deal against heavy odds, we still do not know as much as we would like to know about the origins of the Yiddish language.

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<sup>42</sup> Parts of this paper are adapted and extended from my review of Eckhard Eggers, *Sprachwandel und Sprachmischung im Jiddischen*, Frankfurt, 1998, which appeared in *Indogermanische Forschungen* 103 (1998), 323-328.

The closest thing we have to a canonical theory of the origins of Yiddish remains Max Weinreich's.<sup>43</sup> Jews had been drawn from the Holy Land to western Europe in the wake of expansion of the Roman Empire from the earliest days of the Common Era (C.E.) on. Jews made good soldiers, complicating Roman rule of Palestine and tying up Roman legions at Masada for years before committing mass suicide rather than allowing themselves to be taken prisoner there. Jews were recruited into the Roman army and then usually transferred to Italy or other parts of the Empire as needed. Where language is concerned, they would have spoken Aramaic or, if with upper class origins or upper class pretensions, Greek or Latin, Hebrew having become all but extinct before 0 C.E.<sup>44</sup> Naturally the Jews learned whatever languages they needed to in order to get ahead, as ambitious immigrants throughout the world have done from time immemorial. Roman conquest spread northward and eastward along the Rhine and Danube rivers, and not only troops but support personnel — the people who arrange provisioning and housing for armies — were drawn heavily from Jewish merchants who were not only good at their job and knew how to get things done but had the advantage of knowing enough Hebrew to facilitate contacts and negotiations with other Jewish merchants along the way.

As Roman power waned and the Empire turned inward upon itself, islands of Roman expansion into Germany and France remained in the form of towns such as Cologne, Speier, Mainz, and Troyes along the more easily negotiated rivers, notably the Rhine and the Danube. Jewish communities in such places are attested from the tenth century C.E. and often earlier. The Jews living there spoke, we assume, approximately the German or French of the neighboring non-Jews (anti-Semitism was not the force it later became after the onset of the Crusades, the First Crusade having been called forth by Pope Urban II in 1096, and provisions for ghettos had not hardened into what they became later).

Weinreich's theory is that Yiddish arose in southwest Germany-France on the banks of the Rhine (in an area he called *Loter*, cf. Lorraine), grew out of a fusion of the language "La'az" (Judeo-Romance) and German, and was transported to the Slavic east a step ahead of the Crusaders' knives. This nascent language absorbed ("fused") Hebrew and Aramaic as it went and later Slavic (Czech, Polish, Ukrainian) on arrival. The notion of Yiddish as "fusion language" (*shmeltsshprakh*) was central to Max Weinreich's grand conception. Yiddish was the final result of the grafting of this fusion of Romance,

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<sup>43</sup> See his "Prehistory and Early History of Yiddish: Facts and Conceptual Framework," *The Field of Yiddish 1*, ed. Uriel Weinreich, New York, 1954 for a preliminary formulation of what became the standard theory, often called "the Rhineland Theory." He developed it much more extensively in his magnum opus, *History of the Yiddish Language*, Chicago, 1980.

<sup>44</sup> Extinct that is as a spoken language acquired the normal way by children learning the language from parents, relatives, siblings, and playmates. Hebrew was always required for rabbis, used in religious rituals and disputation, and every Jewish male traditionally had to know how to read and write Hebrew in order to "become a man," i.e. to undergo the *bar mitzvah* ceremony at age thirteen. Hebrew did linger as a spoken language in isolated pockets in Palestine down to the 3<sup>rd</sup> century C.E.

Hebrew, and Slavic onto a Germanic grammatical structure. Weinreich's version of the origins of Yiddish has been widely accepted, by linguists and non-linguists alike. It is the textbook theory, the Received Theory.

But the Rhineland Theory has its problems, both linguistic and demographic.<sup>45</sup> The linguistic problem is that Yiddish bears little resemblance to the dialects of German spoken now or in medieval times in the Rhineland. The demographic problem is that there were not enough Jews living in western Europe on the eve of the Crusades to have created the large Jewish populations found later in eastern Europe. In order to meet these difficulties, theories that diverge from or disagree with the standard Rhineland theory have been proposed.

Earlier scholars attributed language developments in Yiddish to Greek or Persian, or to Judeo-versions of these languages. This research was somewhat superficial and naïve — just because *u* in Greek became fronted to *ü* and so did *u* in parts of Central Yiddish does not mean that the latter borrowed this feature from the former. Greek and Persian (and their "Judeo-" variants) are irrelevant to Yiddish, in my opinion.

It has been argued that Yiddish is a creole or at least a kind of creole. Standard Yiddish, when compared with standard German, both of them derived from a common medieval source in Middle High German, shows a great deal of simplification, some of which has put linguists in mind of creolization phenomena: unrounding of front rounded vowels, loss of the contrast between long and short vowels, loss of the preterite (replaced by the present perfect), reduction of the two adjectival declensions in German ("strong" vs. "weak") to one in Yiddish, loss of the rule of final devoicing of obstruents and loss of vowel length in standard Yiddish (though not in all dialects), and much else besides. However, every single simplification one finds in Yiddish one finds also in German dialects, Bavarian dialects in particular, and in German exported centuries ago to

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<sup>45</sup> Alice Faber and I discuss these problems in our "Yiddish and the Settlement History of Ashkenazic Theory," *The Mankind Quarterly* 24 (1984). See also Robert D. King, "Migration and Linguistics as Illustrated by Yiddish," *Reconstructing Languages and Cultures*, ed. Edgar C. Polomé and Werner Winter, Berlin/New York, 1992. In order to save space in this paper I omit many issues more fully covered in those articles and others I have written on what I call "the Danube Hypothesis": "Proto-Yiddish Morphology," *Origins of the Yiddish Language*, Winter Studies in Yiddish, vol 1, ed. Dovid Katz, Oxford, 1987, 73-81; "On the Origins of the s-Plural in Yiddish," *Studies in Yiddish*, ed. Paul Wechsler, Tübingen, 1990, 47-53; "Early Yiddish Vowel Systems and the Question of Origins," *The Field of Yiddish V*, ed. David Goldberg, New York, 1993, 87-98.

Early Danubists were Matisyohu Mieses and Jechiel Bin-Nun. Dovid Katz and I came on the Danube Hypothesis independently of each other at about the same time (the mid 1980s). He came at it from the Hebrew-Aramaic side, I came from the Germanic side. See not only Katz's introduction to the collection just cited (Winter Studies in Yiddish, vol. 1) but also his "Hebrew, Aramaic, and the Rise of Yiddish," *Readings in the Sociology of Jewish Languages*, ed. Joshua Fishman, Leiden, 1985. Eckhard Eggers (op. cit.) joins the Danubists in producing new Slavic evidence and locates the birthplace of Yiddish in Bavaria-Bohemia, in the Danube basin in other words, between the focal areas of Regensburg and Prague.

outlying reaches such as Russia, Pennsylvania, and Texas, and we don't call these languages "creoles" (because they aren't: they are German dialects heavily influenced by the coterritorial languages).

In my view, if one is going to call Yiddish a creole language (or a decreolized creole, or a postmodern creole, or whatever), then one must call most Upper German dialects creoles and one must call English a creole, and it doesn't stop there. If a language A rubs up against a language B, then simplifications will almost always take place in one or both of the two languages. To state that truism is one thing; to call such a process "creolization" and to make something grand and explanatory of it is quite another. Do we really wish the explanatory value of "creole" to become nil? That is what happens if "creole" or "creolization" or "decreolization" is invoked every time a language has simplified its grammar. I reject the creole theory of Yiddish. Nor do I not think it helpful to draw tedious terminological distinctions here; to propose for example that Yiddish is a "phenomenological" pidgin/creole, as some have done.<sup>46</sup>

Strange theories about the origins of Yiddish emanated from the prewar Soviet Union and its "Marrist-Japhetidological" linguistics.<sup>47</sup> Arthur Koestler popularized an earlier idea that the Jews of eastern Europe were not Semitic at all, rather Turkic Khazars, and their language, Yiddish, a German-Khazar fusion.<sup>48</sup>

Most ambitious and interesting of all is Paul Wexler's theory that Yiddish is "... not a variant of High German, as is commonly maintained. Rather it is a Slavic language, specifically a form of Sorbian," and "... Yiddish would be the end result of double relexification: first Judeo-Balkan Slavic was re-lexified to Judeo-Sorbian and then the latter was re-lexified to High German."<sup>49</sup> Do bear in mind, as I fleetingly discuss the Wexler hypothesis, that Yiddish has a thorough-going German grammar and structure and that some 80% of its vocabulary is German, with 12-15% from Hebrew-Aramaic (depending on style and register), something less than 5% from Slavic, and with additional lexical borrowings from the coterritorial languages.

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<sup>46</sup> As Joshua Fishman seems to have done, cf. Eggers, 395. No man has done more for Yiddish and Yiddish linguistics than Joshua Fishman — I once called him in a *Language* review a "a twentieth-century linguistic hero" — so I do not like to criticize him for anything, but I think very little of the creole theory of Yiddish. Its rehabilitation in a "phenomenological" costume does not improve my opinion of it.

<sup>47</sup> See Dov-Ber Kerler, "Prewar Soviet Theories on the Origins of Yiddish," *Origins of the Yiddish Language*, ed. Dovid Katz, Oxford, 1987.

<sup>48</sup> Cf. Koestler, *The Thirteenth Tribe: the Khazar Empire and its Heritage*, New York, 1976. Koestler's theory, which I find linguistically unconvincing, has at least the merit of calling attention to the fact that we lack an explanation for the large population of Jews in eastern Europe — at least 500,000 by 1600 and probably closer to a million. (If they were really converted Khazars, then there would have been a lot of them.)

<sup>49</sup> Paul Wexler, *The Ashkenazic Jews: a Slavo-Turkic People in Search of a Jewish Identity*, Columbus, Ohio, 1993, 241, 243. He first introduced his theories in an earlier monograph entitled *Yiddish — The Fifteenth Slavic Language. A Study of Partial Language Shift from Judeo-Sorbian to German*.

## Origins of Yiddish

This is of course a quite shocking theory, very audacious. Yiddish a Slavic language, not Germanic? Hebrew not a Semitic language but a “derivative of Yiddish, and thus ... also a Slavic language,” as Wexler says elsewhere in his book (242)? Even more provocative is Wexler’s related claim that the Jews of eastern Europe — Ashkenazic Jewry — are not Semitic at all, rather Turkic (Khazaric) and Slavic (8).<sup>50</sup>

All very heady stuff. But, interesting and provocative as Wexler’s ideas are, I am not persuaded. Joshua Fishman devoted an entire issue of *International Journal of the Sociology of Language* (vol. 91, 1991) to Wexler’s bold new theory with critical commentary from a number of respected linguists, and the interested reader can find there review articles pro, con, and undecided. I am in complete agreement with Edward Stankiewicz’s conclusion: “[I]t seems reasonable to conclude that Wexler’s Judeo-Sorbian hypothesis has little to recommend it over the traditional view which sees in German the origin and primary component of Yiddish” (213). To this can be added Eckhard Eggers’ devastating critique from later (177):

Die bisher vorgestellten Überlegungen zeigen, daß die in Wexler 1991 erstmals präsentierte Sorben-Hypothese nicht haltbar ist. *Die von Wexler vorgebrachten Argumente ließen sich ausnahmslos widerlegen* [emphasis mine: RDK]. Wexler begeht sogar einen angesichts der überzeugenden Qualitäten seiner übrigen Arbeiten völlig unverständlichen methodischen Fehler: er setzt das zu Beweisende in den meisten seiner Argumente voraus und benutzt es, um die Argumente selbst zu untermauern.

What about the argument that racially the Jews are not Semitic? The results of a recent DNA investigation undertaken by Dr. Michael F. Hammer and his associates are overwhelmingly against the notion of a Slavic or Turkic origin for Ashkenazic Jewry. These and related findings from other investigations are available in numerous Website sources.<sup>51</sup> Typical conclusions are such as:

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<sup>50</sup> In a later book Wexler has argued that the Sephardim, the Jews expelled from Spain in 1492, are, like the Ashkenazim, not Semitic, *The Non-Jewish Origins of the Sephardic Jews*, Albany, New York, 1996. “Sephardic” and “Ashkenazic” are derived from the medieval Hebrew words for Spain and Germany respectively.

<sup>51</sup> The easiest way to gain access to this and other ongoing research projects is via the following Websites (four among many) which are, as of this writing (December, 2003), operational:

[http://www.aish.com/societywork/sciencenature/Jewish\\_Genes.asp](http://www.aish.com/societywork/sciencenature/Jewish_Genes.asp)

<http://www.csulb.edu/~kmacd/genetics.htm>

<http://www.jewishgen.org/jgsgw/talks/ostrer.html>

<http://tarkus.pha.jhu.edu/~ethan/jFAQ.html>

An overview of the research and findings can be found in a report in *The New York Times*, 9 May 2000, by Nicholas Wade: “Y Chromosome Bears Witness to Story of the Jewish Diaspora.”

"Despite their long-term residence in different countries and isolation from one another, most Jewish populations were not significantly different from one another at the genetic level. The results support the hypothesis that the paternal gene pools of Jewish communities from Europe, North Africa and the Middle East descended from a common Middle Eastern ancestral population, and suggest that most Jewish communities have remained relatively isolated from neighboring non-Jewish communities during and after the Diaspora."

(M.F. Hammer, Proc. Nat'l Academy of Science, May 9, 2000)

Although the Ashkenazi (European) Jewish community separated from their Mediterranean ancestors some 1,200 years ago and lived among Central and Eastern European Gentiles, their paternal gene pool still resembles that of other Jewish and Semitic groups originating in the Middle East.

The Ashkenazi paternal gene pool does not appear to be similar to that of present-day Turkish speakers. This finding opposes the suggestion that Ashkenazim are descended from the Khazars, a Turkish-Asian empire that converted to Judaism en masse in or about the 8th century CE.

These results are grossly inconsistent with the notion that the Ashkenazim are descended, to any significant degree, from the Khazars or some Slavic group.

If Wexler's theories are not true, and if we dismiss Judeo-Persian and Judeo-Greek and all of that, and if creolization is not the answer, and if Max Weinreich's theory has problems both linguistic and demographic, what is left? How do I think the history of the Yiddish language and the origins of Ashkenazic Jewry should be written? Well, to begin with I do not think that the story of Yiddish is odd, bizarre, or particularly unique as languages go. I subscribe to what I shall call a "Minimalist Theory" of the origins of Yiddish.<sup>52</sup> I think Jews speaking German, probably with some kind of "Jewish accent," were living in southwest and southeast Germany when the Crusades (1096-) made life there for them difficult not to say impossible. Their number was less than 50,000, possibly less than 30,000, and not all of these survived the massacres of the Crusades. They fled east to safer havens, eventually finding a new homeland in Poland from which they ranged out to other parts of eastern Europe as opportunity presented. The foundation dialect of Yiddish is (medieval) Bavarian.<sup>53</sup> Jews were living along the Danube (Eggers'

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<sup>52</sup> Short for the "Commonsense Theory of the Origins of the Yiddish Language: Linguistic Lessons from the Rule of Reason."

<sup>53</sup> "Bavarian" in its larger sense as the Bavarian-dialect area, which in medieval times extended well past present-day Germany and Austria into central Europe.



Bohemia-Bavaria) in large numbers at the time, larger than we have hitherto known about; their cultural centers were Regensburg and Prague. Hebrew was always a sacral language in which educated Jewish males were literate; naturally therefore Hebrew (and Aramaic) invaded the lexical stock of Yiddish and to a far lesser extent its structure. In the Slavic east Yiddish was influenced by the Slavic languages — of course. There were more Jews living in the Slavic east (“Knaan,” Canaan) than one has thought.<sup>54</sup> The *structure* of Yiddish remains firmly German, as does most Yiddish vocabulary.

My “Minimalist Theory” is a very modest departure from Max Weinreich’s Rhineland Theory, diverging primarily in my reservations about the importance of his Romance component in Yiddish (“La’az”), of Loter. Jews may very well have started out in communities along the Rhine, but on the trek eastward they spent a lot more time in Bavarian-speaking areas than the textbooks tell us about. And they found a lot more Jews out there in the east when they arrived, Jews less culturally and probably less religiously advanced, upon whom they imposed their language and customs. Hence Yiddish, hence Ashkenazic.<sup>55</sup>

Because this theory is so free of language-circus curiosities — no pidgin/creole, no Sorbs, no Persian, no Greek, no Khazars, no Marrist nonsense — I dub it the “Minimalist Theory.” It is what you get if you practice historical reconstruction in the time-honored way: placing chief evidential value on cognates and shared grammatical structures; assuming that languages don’t do crazy things — like replacing its stock of lexical items en masse with lexical items from a culturally less advanced contact language; balancing off what linguistics tells us against what history, DNA, and archeology tell us; and leavening the whole thing throughout with healthy dollops of common sense.

Are there any lessons here for Nostratics? Well, I leave the judgment of that to those of you more centrally involved in the Nostratic enterprise. However, it does seem to me, as an interested and very sympathetic bystander, that the story of arguments about the origins of Yiddish are not without lessons for Nostratic methodology. What is the “foundation dialect” of Yiddish: German of the Rhineland or German of Bavaria? What is the evidentiary value of sound correspondences balanced against similarities of grammatical structure? Do we “prove” genetic relationships or do we make ourselves content with “reasonable working hypotheses?”<sup>56</sup> How do we prove or disprove radical

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<sup>54</sup> George Johnson, “Scholars Debate Origins of Yiddish and the Migrations of Jews,” *New York Times*, 29 October 1996. In this paper I do not have the space to go into what archeology teaches us about the settlement history of Ashkenazic Jewry and early Jewish sites in the east. I refer the interested reader to the Faber and King article cited in footnote 4.

<sup>55</sup> What happened in eastern Europe in Judaism—the cultural and linguistic imperialism of the Ashkenazic-German-Yiddish nexus—parallels thus very closely what happened around the Mediterranean after the Jews were expelled from Spain in 1492: the cultural and linguistic imperialism of the Sephardic-Spanish-Ladino nexus.

<sup>56</sup> I draw here on questions posed in the very balanced review by Carol F. Justus of *Nostratic: Sifting the Evidence*, ed. Joseph C. Salmons and Brian D. Joseph, Amsterdam, 1998. Her review appeared in *General Linguistics* 37 (1997), 220-226.

theories (such as Paul Wexler's Sorbian hypothesis)? Such radical hypotheses sometimes lead to interesting new questions and answers, sometimes they lead a generation of linguists down a false path. Can we determine when we have the former case, when the latter?

Such are the questions that reflections on the origins of Yiddish lead us to. I do not think that they are all that different from questions that linguists who work on Nostratic are required to pose and try to answer.

## BEFORE INDO-EUROPEAN AND URALIC

János Makkay

The establishment of the period of existence of the Indo-European proto-language rests to a considerable extent on one's conception on the formation and succeeding development of proto-languages. Basically we have two choices:

a. Separation (subgrouping) along the rules of the well-known *family tree model* when the 'daughter' languages of a former Nostratic language protofamily (Altaic, Uralic, Dravidian, Kartvelian, Afro-Asiatic and Indo-European) as constituents of the protofamily show a great number of common archaisms and partly common innovations unknown elsewhere, and at the same time they keep the shared retentions of a core vocabulary (more rarely morphology, phonology or perhaps syntax) that was common to the whole protofamily or to other branch/branches of its groups.

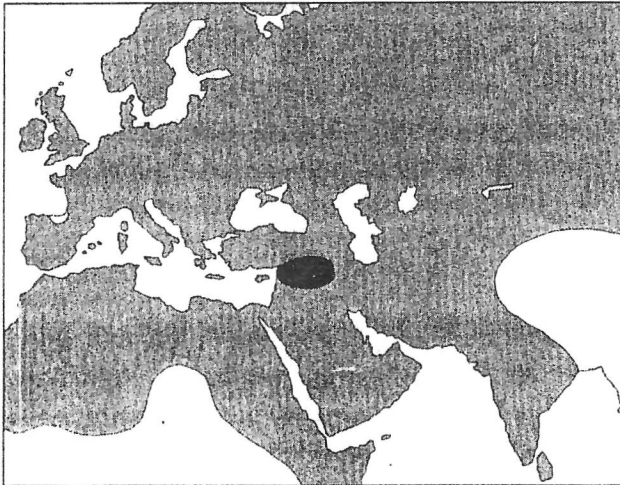
b. The other suggested way of the evolution of a parent language (for instance the Uralic, Indo-European or any other protolanguage), i.e. the recently preferred *convergence theory* (model of language league or language alliance) must be ruled out in this case. According to this theory several protolanguages did not come about from a common ancestral superfamily but developed integrating small tribal language units by complicated (and hitherto totally unknown) convergence processes. The basic idea of the Nostratic protofamily ought to be the widely accepted principle that related language families diverge with the passage of time isolating from each other. To apply the convergence model to the members/protodialects of the Nostratic protofamily would push time limits of the formation of the Nostratic protofamily back to times beyond unanalysable depths in the Middle and even Lower Palaeolithic (see the maps on Fig. 5). On the other hand, I consider the 'Sprachbund or language league-theory' an artificial and forced creation and as such untenable. The theories of language league and the idea of a Nostratic protofamily are incompatible with each other.

As a result of these short considerations three important points emerge:

a. The relatedness of these six protolanguages i.e. the question whether the genetic relationship of these languages can be eminently proved by the relevant linguistic criteria. This apparently is not my duty and topic.

b. Another important point is to determine and describe the period underlying the formation, existence and split of the Nostratic protofamily, i.e. the chronologies of these related events which, on the other hand, are dispersed over a very wide area and also a very long way of development in time. As a result, their closer archaeological study would strongly need cooperation of several experts of the Palaeolithic and Mesolithic which is apparently not the case at the moment. Professional archaeologists – unfortunately – rarely dwell on such and similar questions. An important part of this point is to calculate the duration of the formation (etc.) periods of the protofamily, since its succeeding phases can fall on different developing phases as for example the Upper Palaeolithic and Mesolithic of a given area (selected as a possible homeland of the

Nostratic processes on linguistic grounds<sup>57</sup>). As a matter of fact, several elements of continuity can be observed between the Final Palaeolithic and the Mesolithic of the Levant and bordering parts of Syria and Turkey (for more details see below), and in turn also between their Mesolithic and Early Neolithic cultures. I think that a suggested population continuity of the Final Palaeolithic and the Lower Mesolithic of a given area of the Near East remains the most favourable opportunity for the Nostratic hypothesis.



**Fig. 1:** Location of the Nostratic homeland as suggested by Allan Bomhard. After Mallory and Adams 1997, p. 292. The shaded area indicates the generalized distribution of the Nostratic language family. The darker shaded area indicates the Nostratic homeland c. 15,000 according to Allan Bomhard.

The *terminus ante quem* of the existence of an assumed Nostratic phase can be given very simply: before independent Indo-European, i.e. once before the separation of the Indo-European speech community. *Once* means here the time length of the independent existence of IE. This assumed length here rather depends on educated guesses, balanced judgments and informed speculations than observable facts. I consider the time depth around 5000 BC as a punctuation point when the final differentiation processes of the IE speech dialect continuum had started. This suggestion gives enough time for structural processes and internal developments of the IE family toward separations of its earliest daughter languages i.e. dialectal groups (especially Anatolian and Indo-Iranian), and also for transitional developments from Nostratic bases toward its own daughter languages before 5000 BC. If Bomhard's suggested location of his Nostratic homeland (into Southern Turkey, Northern Syria and Iraq), and its chronology

<sup>57</sup> One very important point is that the selected area should guarantee common linguistic development and territorial closeness of protodialects of the superfamily (i.e. continuity of their material culture) during a long period of time.

from around 15,000 (between 15 and 10 thousand) BC is realistic (Fig. 1), cca. five thousand years remain accurate for internal and diverging processes of the Nostratic protofamily. The exclusion principle [the homeland should not be set in an area where there is evidence of prior existence of different tongues; Mallory – Adams 1997, 295] does not play a role in this case.

c. Finally comes the material background of the whole process, i.e. some archaeological facts or theories which can be related to linguistic processes by some means.<sup>58</sup> Bomhard's mentioned dating around c. 15,000 BC determines the archaeological character of this period: according to the recent stand of Near Eastern prehistoric archaeology (which should be taken into consideration) this datum corresponds well to the earliest emergence and succeeding floruit of the Mesolithic way of life in the Near East and Anatolia, and can be correlated with the end of the Upper Palaeolithic in territories of Europe lying south of the Ice Cap.

My short contribution will concentrate on reconstructable events of these periods, mostly of the Mesolithic at the end and after the Ice Age.

If my views on the Nostratic theory are correct, there is a simple way to characterize the relationship between the protolanguage groups and the superfamily, and it is the extension of the family tree model backward in time, into time-depths well before the period of existence of the daughter proto-languages. The basic principle of this approach is that if the cognate stocks of a language family (Indo-European, Uralic, etc.) may be more or less similar or only somewhat related (and presumably once geographically proximate) to one another, so also someone may argue that similar relationships exist between different language families<sup>59</sup> bordering each other. If we take such a backward step, it does not change the general rules of linguistic reconstruction but causes them to go back a stage and gives (or may give) them a specific (or different) temporal, spatial and cultural perspective. The temporal category will be, of course, the chronology of the whole process depending on two factors:

a. First, the dating of the existence of the still undifferentiated, original speech parent – Nostratic – community of the daughter languages i.e. before Nostratic began to diverge into dialectal groups, i.e. the Nostratic daughter protolanguages. It can be argued that this systematic dating approach will much be facilitated if the parent speech communities (both of the assumed Nostratic superfamily and its descendants, or only a part of them) can be identified with archaeologically attested/attestable facts and suggestions. From this point of view the parent speech groups of the Uralic protolanguage have a definite advantage: *spatially*, it can be taken as resolved that their speakers had always lived on the northern periphery of one (Indo-European), two (Elamite and/or Kartvelien) or more (?) daughter-languages (west or northwest of different, mostly undefined Palaeosiberian and other Asiatic – Altaic? – groups). *Temporally* a great part of the Uralic protohabitat had once been covered by the Ice-Cap.

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<sup>58</sup> The generally large distribution of Upper Palaeolithic archaeological entities taken into consideration, the application of the method of contiguous and large cultural territories would be useful here. For this method see Makkay 1992, 200-201.

<sup>59</sup> J. P. Mallory in Mallory – Adams 1997, 291-292.

The first settlers migrated to these territories after the final retreat of the Ice-Cap in a continuous flow after 12-8,000 BC, and if these time limits are granted, they confirm a sure *terminus post quem* for the arrival of Proto-Uralians to their prehistoric habitat. It surely means that around 8,000 BC at latest, speakers of Proto-Uralic had already diverged from the Nostratic protofamily. Or, what I would consider absurd, groups speaking a Late Nostratic tongue had been who migrated in the wake of the retreating ice toward the Northern Ice Cap. Considering the time around 8,000 or between 12 and 8 thousand BC as the phase of emergence of Proto-Uralic language family and the slow but progressive moving of its speakers to the North, a dating of around 15,000 BC for the existence of the still non-diverging Nostratic superfamily seems to be realistic.

b. Second, some significance should be attached to the length of the – hitherto mostly unknown – linguistic processes and also the speed of the human progress of that assumed period which led to the emergence of the six language groups. Fortunately, two eminent scholars of the field gave us estimates which I think are based on the available evidence. Vitaly Shevoroshkin calculated in 1989 that Nostratic was a language spoken some 14,000 years ago, i.e. 12 millennia BC. (Shevoroshkin 1989, 7). As mentioned before, A. Bomhard suggested a Nostratic homeland lying between the Levant and Turkish-Iranian Kurdistan, and dated it to around 15,000 BC.<sup>60</sup> The relatively early time taken into consideration, the difference between these two calculations is not very important, and it simply can be the result of the continuous (and continuing) backslip (or downslip) of the time-depth in the last two decades (for more details see Makkay 1992, 199).

The backslip is partly the result of the use of scientific dating methods in prehistoric archaeology (as for example the application of much higher calibrated and recalibrated radiocarbon data for the same development phase), and at the same time because of the discovery of increasingly earlier and earlier cultural horizons of the Neolithic. The third time factor can be called the stretching of the single periods. It was Gordon Childe who discovered this phenomenon when likening the prehistoric chronology “to flexible bellows which could be expanded or contracted at will: one end was fixed at 1500 B.C., the other earlier one was free to move, giving a longer or shorter chronology very much according to the wish of the archaeologist” (Makkay 1989, 177, with further reference).

Concerning recent results of radiocarbon-based chronology in Early Neolithic Near and Middle East, instead of flexible bellows I would use the analogy of an extendable rubber band: one end is fixed somewhere in the third quarter of the second mill. BC. The dating of cultures, phases or types before this date simply depends on their relative position in the relevant sequence, and also on the stretching of the band, i.e. the stretching of the relevant part of the band. The clustering and scatter of absolute dates remain in this case in good agreement with the broad outlines of the traditional relative chronology, i.e. the general sequential pattern is already clear. On the other hand, however, the deeper the position of Neolithic (Mesolithic, etc.) artefacts/phases in the

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<sup>60</sup> J. P. Mallory in Mallory – Adams 997, Fig. on p. 292.

stratigraphic sequence, the higher their absolute – C14 – chronology (and the other way round) (Makkay 1996, 221).

A further aspect of chronological importance is when an earlier or *much earlier* archaeological entity (group, culture, etc.) is selected to stand for the material representation of the antecedents of a given protolanguage or superfamily. For more details see below.

The best example of these (especially the second) factors (discovery of increasingly earlier and earlier horizons) is the dating of the famous *Halaf culture* of Northern Mesopotamia, Southeastern Turkey and Northern Syria, which plays a special role in the search for, and identification of, the Indo-European homeland (as for example in theories of Diakonoff and Gamkrelidze–Ivanov). Before the excavation of its principal site, Tell Arpachiyah in 1933 (Mallowan and Rose 1933), the earliest known pottery phase of the post-Mesolithic developments of the Near East (and the whole world) – disregarding some earlier beginnings in Natufian times of the Levant – was the al'Ubaid culture (Burkitt and Childe 1932). After 1933, however, the extremely fine painted pottery of the Halaf culture was considered the type fossil of the earliest sedentary phase of the Near East, and was dated around 5000 BC using pre-radiocarbon high chronology, much more later if using traditional dating systems.<sup>61</sup> Now Arpachiyah dates to the period some time between 6000 and 5000 BC, and according to the presently established sequence it follows a series of Pre-Pottery Neolithic, Proto-Neolithic, Late Aceramic Neolithic and Hassuna phases from their beginning around 10,500 BC (Bienkowski and Milard 2000, 30, and the chronological map on p. vii; Charvát 2002, 42-71).<sup>62</sup>

One of the earliest Neolithic sites (excavated recently) is Hallan Çemi Tepesi in Eastern Anatolia, dating to the end of the 11<sup>th</sup> millennium BP (Fig. 4).<sup>63</sup> The site's inhabitants were dependent primarily on hunting-gathering, but were already experimenting with animal domestication. They also possessed a rich and complex culture with affinities to both earlier (Zarzian, i.e. Mesolithic), contemporary, and later sites along the Taurus-Zagros flanks (Rosenberg 1999, 25).

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<sup>61</sup> Childe 1939. – Makkay 1989, 177-181. – To be correct, Childe dated Arpachiyah after a hypothetical "Neolithic" and before the al'Ubaid sequence because of presence of copper. Copper, however, is also present in Early Neolithic deposits as for example Cayönü in Turkish Kurdistan: Özdoğan 1999, 58: copper beads was widely used during the Second and Third Stages of the PPNB and PPNC. In any case, as M. Mallowan writes, Arpachiyah's excavations opened a new and enthralling chapter and will for ever stand as a milestone on the long road of prehistory: Mallowan 2001, 100.

<sup>62</sup> As for the phases of the Pre-Neolithic and Early Neolithic sequence see Özdoğan 1999, Text, 41-59.

<sup>63</sup> Hallan Çemi Tepesi, important and very early centre of Early Neolithic developments, is located in the foothills of the Taurus Mountains in Eastern Turkey, and it is about 500 kilometres northwest of Shanidar. Its culture was derived from the regional Epipalaeolithic Zarzian tradition and as such can testify to the succeeding continuity of Late Palaeolithic – Epipalaeolithic traditions (Solecki et al. 2004, 118).



The Zarzian industry testifies to the continuity between Late Palaeolithic, Epipalaeolithic and Protoneolithic inhabitants of the Eastern fringes of the Fertile Crescent. In Shanidar cave, the Proto-Neolithic horizon lies above the Epipalaeolithic Zarzian horizon, but on the basis of radiocarbon-14 dates, there was a break of some two thousand years between the two occupations. The Zarzian lithic industry, however, has been viewed as “a direct development out of the underlying late (Palaeolithic) Baradostrian industry at Warvasi” The Zarzian may date as early as 22,000 BP, and may have lasted until 12,000 BP. After a time gap of some two thousand years “The Proto-Neolithic in the Zagros area was a time of much cultural change and a period that can be viewed as a transitional between the Epipalaeolithic and the later, Aceramic and fully developed Neolithic” dated into the time period from circa 10,900 to 10,500 BP (Solecki et al. 2004, 114-116). To make this territory of Zarzian cultural traditions consistent with the initial Nostratic distribution of A. Bomhard would need to expand his area.

The western area of Bomhard’s candidate for the localization of the Nostratic homeland of relatively restricted distribution is the territory of the somewhat earlier Mesolithic and Proto-Neolithic cultures in the Levant and Syria.<sup>64</sup> Both seem to be very promising as the place of very early Indo-European and Palaeosemitic (Afroasiatic) contacts i.e. the scene of their final disintegration: their separation from their common superfamily. The exclusion principle, however, argues that the IE homeland should not be set in an area where there is evidence of prior non-IE occupation. This also relates to Hattic and Hurrian Anatolia, almost the entire Near East (Semitic, Sumerian) and Iran (Elamite).<sup>65</sup> This principle locates the earliest possible IE homeland quite far north of the dark shaded area of Bomhard (Fig. 1), at the present moment without a clear understanding of the great spatial gap of the suggested protohabitat of the ancestors of Early Indo-Europeans in a Nostratic phase and their calculated – mostly European – distribution in the Early Neolithic. As it is well known Renfrew’s choice for an IE protohabitat (from a range of prehistoric cultural groups) in the closed area of Catal Hüyük (lying on an expanded territory of Bomhard’s Nostratic) was equivocally refuted by linguists, prehistorians and cultural historians using a great number of arguments.<sup>66</sup> The only possibility to reconcile such apparently contradictory suggestions would be pushing back the dating of the dispersal of Proto-Indoeuropeans from a Nostratic protohabitat lying in territories of the Fertile Crescent (see below).

C. Renfrew’s model was one of the first that placed the Nostratic homeland into the Near East and dated it to the millennia between 15,000 to 10,000 BC. According to him “the historical background to the Nostratic group would lie in the Near East and

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<sup>64</sup> For a recent summary see Cauvin 2000, part I.

<sup>65</sup> J. P. Mallory in Mallory and Adams 1997, 295. – The inhabitants of Susa and Fars might already be considered Elamites c. 3000 BC: Potts 1999, 43. This argument is, of course, valid only from the point of view of the exclusion principle if the Elamite was not part of a hypothetical Elamita-Dravidian protolanguage (i.e. Nostratic) group. In general, Szemerényi 1989, *passim*.

<sup>66</sup> See Transactions of the Philological Society 87:2, 1989, 158-171, and also Current Anthropology 29:3, 1988, 441-463.



perhaps to the north-east, in the later part of the Pleistocene, over the time range from 15,000 to 10,000 B.C." (Renfrew 1989, 137): "What, then, if the Nostratic hypothesis were right? What if all these languages were indeed related by some familial affinity? What are the implications, if we should be thinking of an early, proto-Nostratic language, spoken perhaps around 15,000 BC in some area within Europe and western Asia, from which all these later languages would in some sense be descended?" (Renfrew 1990, 7.) The suggestion of a Nostratic homeland lying between Levantine and Kurdistan territories is beyond the realms of Pre-, Proto- and Early Neolithic archaeology of the area around and shortly before 10,000 BC. I fully agree with the view that "at a date around 10,000 BC these proto-languages may already have existed as distinct languages or dialects." (Renfrew 1991, 14.)

A totally different picture emerges, however, if we advance (backwards) beyond the 15<sup>th</sup> mill. BC, to Upper Palaeolithic periods.

If someone would incline to accept Bomhard's proposal for an original common Nostratic homeland in the Levantine-Kurdistan area, he/she should automatically subscribe to the theory of Renfrew. It identified East Anatolia as part, although not necessarily all, of the early "homeland" of people speaking a very early form of Indo-European, around 7000 BC (Renfrew 1987, 174). The reception, however, of his theory has not been a favourable one, especially its suggestions concerning Anatolian origins of the Indo-European stock. I fully agree with the wording of O. Szemerényi (without going into details of boring but astonishing archeological trivialities): "I must confess that the whole of [his] statement, obviously of the highest importance for Renfrew's theories, seems to me utterly without a rational basis".<sup>67</sup> Recently a well-informed expert on Levantine matters, the late J. Cauvin remarked on the sensational synthesis of Renfrew 1987 as follows:

In his view the neolithisation of Europe can be understood as a genuine colonisation that started in the seventh millennium from a source in Anatolia and involved the arrival in Europe of new population elements. He considers these as the carriers of the Indo-European proto-languages [language], moving forward in accordance with a "wave of advance" model. More recently, he has extended his theory beyond this family of languages by referring to the so-called 'Nostratic hypothesis' proposed by Russian linguists. At one level, comparative methodology has allowed the definition of families of languages (for example, the 'Indo-European' family) in terms of affinities of vocabulary, morphology of words and phonology, all the languages of a family being derived from a hypothetical common ancestor. Now it is further proposed that certain of the families themselves present affinities that allow them to be grouped in their turn into 'macro-families' that equally point back to a common source. Therefore a 'Nostratic' proto-language was the origin of the Indo-European, Hamito-Semitic, Elamite-Dravidian, Uralic and Altaic families, that is of the great majority of the languages spoken in Europe, Asia and North Africa. Colin Renfrew links his conclusion with a 'four-lobed' theory of the first Near Eastern Neolithic

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<sup>67</sup> Szemerényi 1989, 158-164.

peoples,<sup>[68]</sup> which were, according to him, the Levant, Anatolia, the Zagros and perhaps Turkmenia. Based on an original community of 'Nostratic' language, each of these four lobes may have given rise to one of the four directions of simultaneous agropastoral expansion and linguistic differentiation: Anatolia gave rise to the westward direction (the Balkans and Europe) with Proto-Indo-European, the Levant to the South (Arabia and Africa) with Proto-Semitic, the Zagros towards the east with the Elamo-Dravidian languages, and finally Turkmenia towards central Asia with the dialects of the Uralic and Altaic families [Fig. 2]. It goes without saying that this very attractive theory may very well relate to reality, but, at the present stage of archaeological and linguistic research, it is Renfrew's opinion that it is not possible to consider it as anything more than a speculative hypothesis, only the European direction seeming for the present to be sufficiently supported (Cauvin 2000, 139).

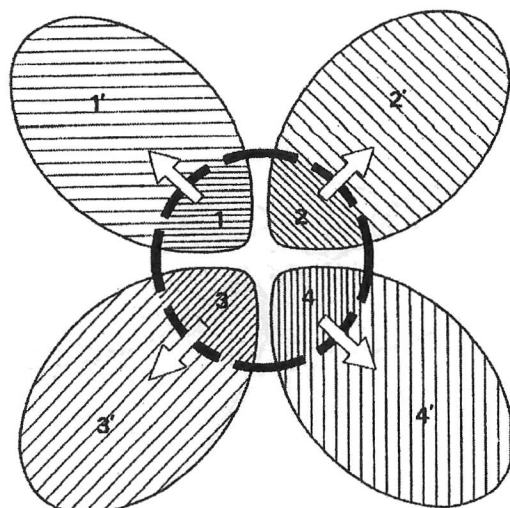
We can add: important parts of his hypothesis (as for example that concerning the origins of the Proto-Greek language from the East, from a Proto-Indo-European developing around Catal Hüyük) must be – and has been – considered false (Makkay 2003a, 9).

No matter how attractive Renfrew's theory of a Turkmenian seat of Proto-Uralic is, it is in the strongest opposition to a variety of suggested Uralic proto-homelands lying on a wide belt between the Altai Mountains and the Baltic (with the exception of unfounded claims for an Uralic homeland in Southern Central Asia in the Mesolithic-Neolithic (Makkay 2003, 240). On the other hand, speculative hypotheses based on informed guesses are the only available method for approaching to linguistic matters of Upper Palaeolithic times. It is interesting to note from this respect that the Hungarian linguist János Harmatta was the first who asserted that the earliest post-glacial habitats of Indo-European people [around ca. 15-10,000 BC] were in the Near East in the neighbourhood of Proto-Semitic peoples (Harmatta 1989, 162 and 173).<sup>69</sup>

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<sup>68</sup> Renfrew 1991, 6-7. The theory was first suggested by A. Sherratt and S. Sherratt in 1988: *Transactions of the Philological Society* 87:2, 1989, Fig. 7 on p. 135, seen here as Fig. 2. According to the recent interpretation of Renfrew, "the current distributions of languages comprising the constituent language families of the hypothetical Nostratic macrofamily (including the Indo-European languages) could plausibly be explained by the wider application of the farming/language dispersal model". Renfrew 2000, 9.

<sup>69</sup> For further comments see Szemerényi 1989, 162 and Renfrew 1989, 173.

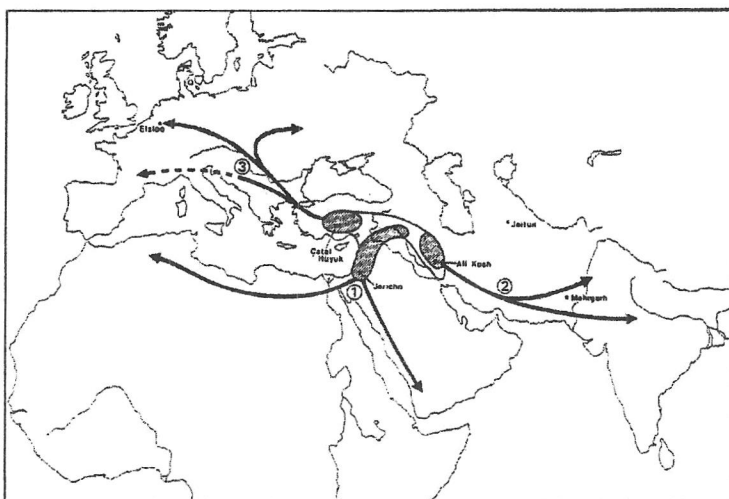


**Fig. 2:** Schematic representation of farming origins and language dispersal from a nuclear area in Anatolia and around. When a transition to primary farming occurs in a nuclear area with some linguistic diversity (shown within the broken circle), the consequence of the ensuing agricultural dispersal is likely to be linguistic replacement in adjoining areas. The lobes represent the areas of the subsequent language families derived from the corresponding proto-languages. Originally published by Sherratt and Sherratt 1988, Fig. 1A, with comments of Renfrew 1990, Fig. 4 on page 12.

There is an undeniable fact which cannot escape our attention: the Nostratic homeland suggested by Bomhard is identical with both of the mentioned Early Neolithic focuses, and at the same time it is a confined – or if one wishes differently, a relatively confined area as compared to the supposed distribution of our daughter languages in the final Neolithic: two-thirds of Eurasia. Here again a reference should be made to a supplementary note of O. Szemerényi: experts in possession of the relevant evidence should re-examine the question whether the area now selected for the homeland can in fact be proved to have been inhabited at the time required, and that in sufficient numbers to appear as a likely candidate for being the cradle of an enterprising go-ahead race.<sup>70</sup>

Another important factor is that the relatively confined homeland of Bomhard – the Levantine–Cappadocian–Kurdistan belt – is exactly the area where archaeological investigations into the Neolithic have accelerated to an astonishingly swift pace within the last twenty-thirty years. The century-old tendency continues: such relatively small geographic areas used to be claimed as homelands where spectacular archaeological researches had taken place.

<sup>70</sup> Transactions of the Philological Society 87:2, 1989, 164.

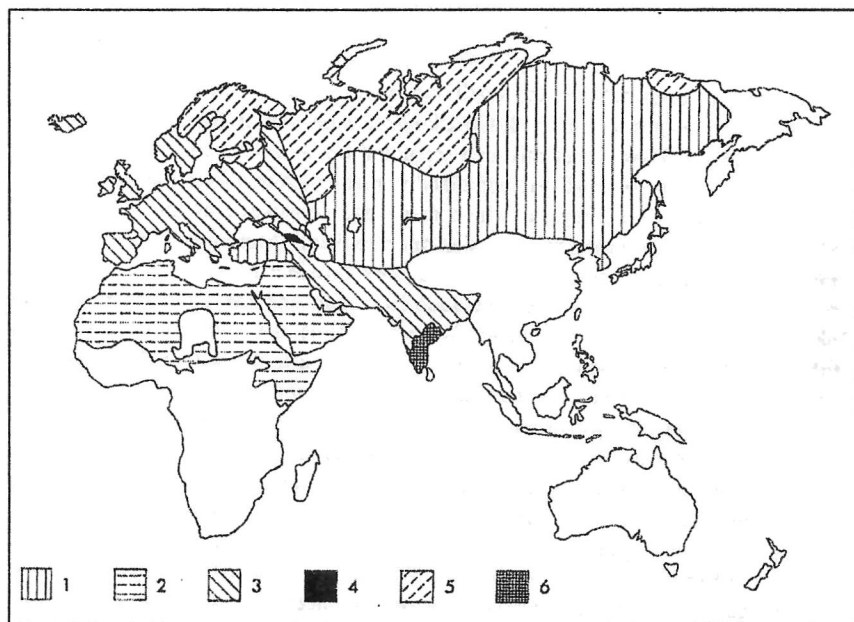


**Fig. 3:** Hypothetical application of the model seen in Fig. 2 to the Neolithic Near East. It is postulated that around 10,000 BC, Proto-Afro-Asiatic (1), Proto-Elamo-Dravidian (2), and Proto-Indo-European (3) languages were spoken in the Near East within the hatched areas, possibly by 4000 BC. After Renfrew 1990, Fig. 5, page 13.

During the first decades of research in the last third of the 19. century, this was an entirely common view both in investigations about Indo-European and Uralic protohabitats. New and intensive discoveries and excavations took place commonly in a relatively large region of some country, and researchers established a chronology and catalogue of especially funerary remains but also recovered material from settlement sites. An enormous amount of previously unknown archaeological material surfaced, which spurred to create new theories. After some years, based on such new discoveries and knowledge, first archaeologists, and then historical linguists founding their theories on those of the archaeologists, enthusiastically present a certain area, which then becomes the new Indo-European, Uralic, or even Nostratic homeland.

This happened the first time in the middle of the 19<sup>th</sup> century in the case of the Swiss lake dwellings, Megalithic graves and later Bronze Age cultures of Southern Skandinavia, and the Late Neolithic/Early Bronze Age Corded ware culture of Central Germany. Each of these cultures and (mostly confined) regions were presented in turn as the ancestral culture and homeland of the Indo-European peoples. For the study of Finno-Ugric prehistory, this kind of idea of a geographically confined homeland area – the Kama-river region – has been facilitated by the studies of the Ananjiro Bronze and Iron

Age graves at the end of the 19. century.<sup>71</sup> Without doubt, the mentioned Central Asiatic theory of the Finno-Ugrians was founded on S. P. Tolstov's thoughts, which leaned on excavations in Khorezm in Central Asia, especially on the so-called Kelteminar lithic technology and contemporary pottery, during World War II and afterwards (László 1961, 103-110).



**Fig. 4:** The present-day distribution of the language groups which were classified by Illich-Svitych within the Nostratic macrofamily. 1: Altaic, 2: Afro-Asiatic, 3: Indo-European, 4: South-Caucasian, 5: Uralic, 6: Dravidian.  
After Renfrew 1990, Fig. 2 on p. 7.

In the last third of the last century the assumed Indo-European protohabitats were followed by two other regions. The Kurgan region of the South Russian steppe has become quite well (but not completely enough) known by Russian and Ukrainian research (more than 50 thousand excavated graves!). The homeland of the proto-Indo-Europeans became the favorite research topic of M. Gimbutas on the basis of thousands of these so-called Kurgan graves (the exclusive sequence of Copper Age Pit-graves, Bronze Age Catacomb and Timber graves, and pre-Scythian and Scythian tombs) – and on her inadequate knowledge of Soviet and Russian data.

<sup>71</sup> Fodor, 1973, 47-55. Makkay 2003, 242, note 22. In fact, most of the Ananjinó graves contain archaeological material – especially of metal – which can be considered remains of Old Iranian (Scythian) groups.

One other, recently preferred area is Anatolia. J. Mellaart's significant discoveries in Hacilar and Çatal Höyük, as well as results of mostly former Halaf culture studies (together with spectacular excavations of the last three decades in the Levant) have given the exclusive basis for Renfrew's – and Gamkrelidze<sup>72</sup> and Ivanov's – previously mentioned location of the Indo-European (and also Nostratic) homelands.

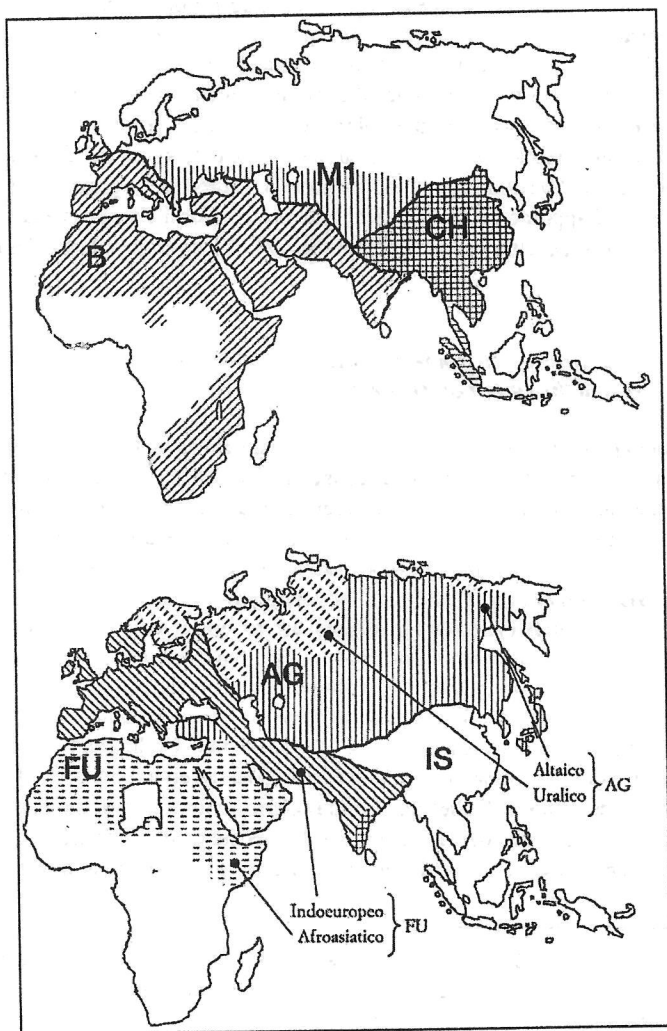
Lying between the suggested homeland areas of the protolanguages proposed in the last two centuries, there were far larger territories than the homelands. Mostly stray finds have been recorded as a result of a nearly total lack of extensive excavations from these extensive territories between the small homelands. Shall we imagine that at the end of the 19<sup>th</sup> century an enormous area, 3,000 kilometer wide, was archaeologically entirely unknown or nearly unknown, and this area separated the Ananjino culture of the Kama region (the Uralic and/or Finno-Ugric homeland in many theories) from the Corded ware groups of Silesia and Czech region (which many had considered as the oldest region where the Indo-European protolanguage was once spoken)? Moreover, it was not even questioned how language contacts could have been possible between two such small culture areas – in this case between the Indo-European and the Uralic/Finno-Ugric confined homelands – located so far apart. At the same time, there was a lot of discussion about the linguistic interrelations (or a primeval linguistic affinity, within the framework of a kind of Nostratic) between the Indo-European and Uralic protolanguages (the Indo-Uralic hypothesis) – but the question itself is clearly open to further discussion.

Thanks to intensive archaeological field researches of the last decades, the intermediary blank areas on the archaeological maps have disappeared: museums of not only Europe but also Turkey and the Near East are literally overpacked with excavated finds. Numerous other arguments can be also brought forward against the idea of small (confined) Indo-European, Uralic – and also Nostratic – homelands. Gyula László, an excellent Hungarian archaeologist, who once wrote a pioneering book on the archaeology of the earliest Uralians (László 1961), has expressed this the most accurately. He wrote that if we assume that the “proto-people” had really lived in – say – three centers (speaking three different tongues i.e. dialects of a – say – Nostratic superfamily), who had in this case lived in other regions from which there are finds providing proof of continuous settlement? If linguists' assumptions (about very small homelands) were right, then we should presuppose the existence of widely separated and internally homogeneous cultures with dense populations, and that there were extensive inhabited regions between these cultures not only with different material culture but also with languages belonging to totally alien protolanguages. We are then correct in asking the linguists how Uralians and Indo-Europeans, starting from their small homelands – lying on a definable part of the Nostratic protohabitat – could have suddenly spread over such an enormous area and assimilated more sizeable populations, who spoke different protolanguages, and who lived in geographically much larger areas than those from which the

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<sup>72</sup> Curiously enough, during the formulation of their Anatolian homeland theory (Gamkrelidze and Ivanov 1995, the original Russian edition 1984) Gamkrelidze held to the old opinion that Indo-European groups penetrated into Anatolia from their Northern homeland across the Caucasus, not later than the end of the third millennium (Gamkrelidze 1970).

Indo-Europeans and Finno-Ugrians come (László 1961,71; László 1987, 37-38). Historical examples indicate, as we know from the Indo-European dialects that have spread to regions where other languages were spoken (for example, Greek and the Anatolian IE-languages), that these kinds of assimilation processes are very slow and a variety of different substrates is large.



**Fig. 5:** Maps representing the alleged coincidence of the anthropological (A), archaeological (B) and linguistic (C) models of M. Alinei (1996, Vol. I, Figs. 14.3. and 5-6.) relating the Lower Palaeolithic (5. A-B) and the correlating tripartite division of large language groups (5. C): agglutinative languages (AG), synthetic (inflectional) languages (FU), and analytic (isolating or root) languages (IS).

If this kind of rapid assimilation happened when several dialects of a Nostratic superfamily spread from their relatively small homelands (as for example lobes from their initial distribution territory), then where are the substrate features – expected to be found especially in the peripheral regions – providing proof of this kind of expansion? As it is well known, Central European regions of Indo-European dialects did not show substratal remains (only on their northern peripheries where most part of words indicating substratal influence may belong to Uralic i.e. Lapponic protostratums<sup>73</sup>), while the existence of traces of assimilated local antecedents on territories of the Finno-Ugric languages is theoretically impossible. From this latter point of view, one of the most important and frequently neglected archaeological facts is the *Janisławice man* (Poland), the famous Mesolithic skeleton found in a Tardenoisien grave, attesting to the presence of exact Lapponic anthropological type on the North European Plain, lying far to the south of the suggested prehistoric protohabitat of Lapponic tribes (Makkay 2001, 327-328<sup>74</sup>).

*Small – culturally independent, loosely bounded, or related? – areas of small tribal languages and the convergence theory.*

To sum up, archaeology has developed a great deal since the first formulations of theories about the emergence of protolanguages and localizations of protohabitats, and the site number and complexity of archeological finds has increased in all regions of Eurasia. We can mention two factors for this. One is that there are no longer white spots in an archaeological sense within Europe and Anatolia, except in the most peripheral regions, the most northern areas, and high mountain territories. The regions between the arbitrarily selected centres (selected homelands) are no longer empty, but they are full of sites: burial grounds, settlements and hoards. If someone still maintains that the homeland of the Uralic (or only of the Finno-Ugric) languages should be the Kama-Bjelaya region or between the Pechora and Ob rivers, he must assume that there were other proto-language groups in the zone between the Uralic and Indo-European homelands (for example, between the Kama and Oder rivers). Similarly, if somebody would adhere to the orthodox belief that Central Germany or a part of the Kurgan area in Southern Russia can be considered the original homeland of the Indo-Europeans, he/she must speculate about the nature and linguistic identity of populations living in densely

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<sup>73</sup> Makkay 2001, 327-328. On the other hand, there is absolutely no archaeological evidence to prove the presence of a Proto-Lapponic population in Western Siberia in the Palaeolithic, Mesolithic, Neolithic or any other later periods.

<sup>74</sup> For a more detailed analysis of the archaeological and prehistoric problems around the Janisławice man see my 2002 paper published only in Hungarian, pp. 119-129. J. Harmatta was the first who made a reflection about the role of the Janisławice man in questions of the Uralic (Proto-Lapponic) ethnogenesis, unfortunately he viewed it negatively. See his short comment in the *Archaeologiai Értesítő* 94:2, 1967, 215.



settled territories inbetween as for example the well-known Cucuteni-Tripolye culture living east and northeast of the Carpathian Range.

An assumption of contemporary tribal language groups living in geographically small regions does not help much. In this case, we come against many questions of principles. Why would a tribal group speaking the Proto-Uralic language emerge in a small area as a result of Sprachbund-like integration of previously isolated language groups representing different ethnicities when in its neighborhood there lived other groups that were also more or less independent from each other, and integrated themselves into another language group, in this case the Indo-European – or Altaic? – language family? Nor can one know why these dispersed tribal language groups would start suddenly to group themselves into a language family especially in the Kama river region and on the South Russian steppe (or Central Germany) but not elsewhere.

In addition, all of this would have occurred during the Mesolithic, which we know was not a period of cultural integration but rather a period of isolation and divergence into small technocomplexes and ethnic groups. According to different but reliable countings there would have been 10, 54, 90 or even 700 isolated tribal societies living in the ca. one million square kilometer area of the Central European forest zone, or in the later European Finno-Ugric territory of similar extent, and the same number of language units of different genetic origins when integration processes resulting in the formation of Sprachbunds would have started at the dawn of the Mesolithic. The start of the assumed integration processes ought to be dated to the time of the Mesolithic, because supporters and believers of the language league theory equally postulate the existence of parent speech communities, the disintegration of which began around the time of the turn between the Mesolithic and Neolithic periods.

<i>Europe</i>	<i>west</i>		<i>east</i>	
<i>north</i>	Proto-Lapps		Proto-Finno-Ugric	
<i>middle</i>	Indo-Europeans	Indo-Europeans	Indo-Europeans	
<i>south</i>	Iberians-Basques	Sicans	Indo-Europeans	Caucasians
			1 Proto-Hattians	3 Proto-Urartaeans
				2 Proto-Elamites
Sketch of the spread of the Western Eurasian protolanguages at the end of the Ice Age.				

**Fig. 6:** *Sketch of the spread of the Western Eurasian protolanguages at the end of the Ice Age as represented in the model of M. Gábori and J. Harmatta.  
After Makkay 2000, Fig. 1 on p. 73.*

Of course, the existence of such vast territories between proposed homelands might offer some support for the Sprachbund theory, if one supposed that a number of tribal groups speaking independent (or only partly related) tribal tongues of unknown language types, lineages and stages lived in these territories. However, there is a general consideration that should be accounted for when we come to consider some specific aspects. Supporters of the Sprachbund theory usually assign the period of large-scale integration of tribal or even so-called group languages into larger – protolanguage or language family units to Pre-Neolithic i.e. Mesolithic times. On the other hand, the Eurasian Mesolithic is associated with a gradual adaptation to local resources and conditions in response to post-glacial environmental changes. Regional specialization and rationalization may be observed in the sphere of food-gathering and the various communities could follow various trajectories in space and time.<sup>75</sup>

This adaptation finally led to the diversification of the Mesolithic material and spiritual culture, and as a result the Mesolithic assemblages show great variation from region to region. This means that parallel with the assumed language *integration* there would be a cultural *disintegration* and *differentiation*. Moreover, correlating with the assumed language *integration* processes during times of cultural *disintegration* – the Sprachbund theory continues – there developed true language families, among others the IE and U/FU parent languages. But the supporters of the Sprachbund theory never indicate the causes and reasons for the apparently unwarranted and sudden change in the course of developments that then took place: after the postulated emergence of parent languages by a way of ethnocultural and language integration why did the process abruptly change direction without any apparent reason, and the final differentiation of parent languages begin? Nor is it possible to deny that these diverging processes (i.e. the final separation of IE or U/FU languages) actually took place, since the differentiation of the speech communities of the parent languages into separate daughter tongues has continued ever since the Neolithic, and it can be clearly documented as far back as the first occurrence of written IE (Hittite) linguistic sources from the early second millennium BC.

As a result of these and other considerations, suggested Mesolithic processes and their language outcomes cannot be reconstructed within the framework of a relatively confined and late Nostratic homeland in the Mesolithic.

The assumed area of A. Bomhard, however, gains credibility if we advance backwards into earlier phases of the Upper Palaeolithic. At such an early time (during the supposedly first arrival of relatively small groups of Homo sapiens from Northern Africa) a confined area is particularly advantageous to further (biological, material and linguistic) development as an original centre or starting area. Prospects and perspectives of Turkish prehistory in this part of the country will surely contribute to the success of discovery of solid proofs.<sup>76</sup>

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<sup>75</sup> Charvát 2002, 6-12.

<sup>76</sup> See especially papers in Özdoğan et al. 2003. Recently see also Aurenche et al. 2004, esp. Papers about the transition from the Epipalaeolithic to the Neolithic.

Accordingly, it seems to me that a much better case could be made out for this decisive change at the much earlier time of the first appearance of *Homo sapiens fossilis* at the beginning of the Upper Palaeolithic well before 15,000 BC. It can be assumed that the spread of Modern Man from Africa can be equated with the initial dispersal of the genetic precursor of Nostratic languages. In this model *Homo sapiens* would displace the earlier Hominid populations of Asia and of Europe (*Homo erectus* and *Homo Neanderthalensis*) around 35-40,000 years ago or even much earlier.<sup>77</sup> According to recent researches the whole development in the direction of the presently existing human species, *Homo sapiens sapiens*, seems to have taken place in Africa, perhaps from as early as 100,000 years ago. From that continent our ancestors first crossed to South-West Asia and then continued to Europe (35,000 years ago?). On their way they might have integrated and completely assimilated the communities of classical Neanderthals of the Near East (Charvát 2002, 3). Such assimilating processes would have led to the sapientization of Neanderthals, and this can give us the possibility to make further suggestions about the origins of Uralic peoples (Makkay 2000, 78-79).

Integration and assimilation can be applied here with two reservations. The first is that a full integration and assimilation extended over territories of non-Nostratic languages which were occupied during the following development and distribution of Nostratic groups including their very late and large scale spread during modern colonizations, mostly at the expense of small tribal languages of Asia and Africa. State languages supported by established religions (China, Japan, India, the Moslim world) have mostly remained unaffected.

Secondly, integration and assimilation processes include ousting of groups of indigenous tribes from their native lands lying on periferies of expanding Nostratic languages as for example the Lapponic in Scandinavia and some Palaeoasiatic languages of Northern Asia. This process continues in these first years of the third Millennium.

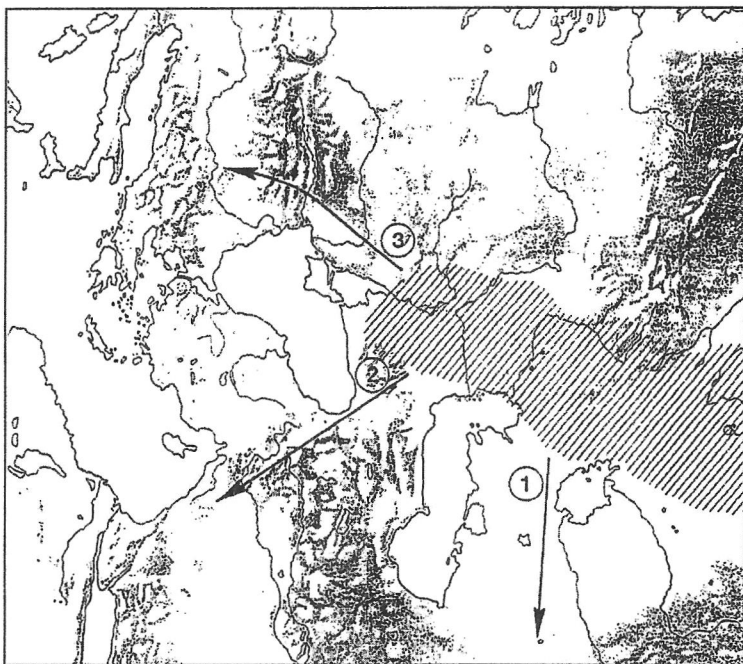
Even this assumption – and also a suggested Nostratic homeland in Southern and Eastern Turkey – cannot solve complicated questions of the Uralic and Indo-European interrelations, whether they were genetically related (Nostratic) languages or of independent origin (including now also the convergence theory).

At this moment nothing more can be said about these questions in a responsible manner. My view briefly described here says that the time depth of the formation of the Indo-European groups must be pushed back at least to the final phases of the Upper (Late) Palaeolithic, but in the case of Proto-Uralic probably to even earlier times, to the Middle Palaeolithic age of *Homo sapiens presapiens*, archaic *Homo sapiens* or *Homo sapiens neanderthalensis*, or its equivalent: *the sapientized Neanderthal men*. The area of emergence of these (Indo-European and Uralic) peoples and their languages is a question to be decided: did both come to Europe from a common Near Eastern centre – from a Nostratic homeland – together with the dispersion of the first Upper Palaeolithic cultures, the Aurignacien and Gravettian, or the ancestors of the Proto-Uralic stem were the local pre-Aurignacien (Middle Palaeolithic) tribes living on the southern border of the Ice Cap

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<sup>77</sup> Szemerényi 1989, 159.

surviving during the Gravettian period as an independent tundra oecumene.<sup>78</sup> Such a Near Eastern origin of the Indo-European branch during the beginning of the Upper Paleolithic suggested by Harmatta and Miklós Gábori had obviously preceded the Renfrew model that was considered a novelty at the time, by almost a decade.<sup>79</sup>



**Fig. 7: the Nuclear Zone of the Eurasian steppes (east of the Don river)  
at the very beginning of the Upper Palaeolithic.  
After Otte 1997, Fig. 5.3. on p. 79.**

A strongly opposing view was advanced by M. Otte in his short contribution on questions of changes at the end of the Lower and again the Middle Paleolithic in Eurasia (Otte 1997, 74-76). According to him, at the end of the Lower Palaeolithic multiple technological innovations appeared evoking recognizable distinct traditions maintained by autonomous ethnic groups. During the Middle Palaeolithic Mousterian times (between 100,000 and 50,000) these technical innovations multiply and the density of human sites increases. This phase is crucial in Europe, because it directly precedes the appearance of anatomically modern man and what is called the 'Upper Palaeolithic' way of life. Evolutionary steps happened slowly and on the outside probably in the steppes of Eurasia

<sup>78</sup> For more details see my 2000 paper, 72.

<sup>79</sup> Makkay 2000, 73-74, with further reference to 1976, 1977 and 1981 papers of the late Miklós Gábori.

where the environment is [was?] favourable (contrary to the curious theory of the African Eve). One of the consequences was that the demographic rate increased and led to further movements (Fig. 7). All these elements contributed to the evolution of thinking and of language. The time depth of these developments strongly need modification of the 'short' theory, i.e. the Kurgan theory which locates the early Indo-European distribution territory within the western half of the Eurasian steppe. Otte took the view that the Kurgan theory cannot long withstand criticism, and also the 'long' theory presented by Renfrew – based on the diffusion of agriculture – is not considered more convincing by him, 'despite of its evident charm' (Otte 1997, 76).

Otte has put forward his model based on his 'Eurasian Steppe Palaeolithic Revolution' which can be called the 'superlong' theory. To sum it up, it says that following to the transition to anatomically modern man on the Eurasian steppes diffusion occurred between 40 and 35,000 years ago, towards Northern India (arrow 1), the Levant (Aurignacian around 32,000; arrow 2) and the Balkans (around 40,000; arrow 3), then along the Mediterranean route. "This radical break in the archaeological evolution is the only one that can explain a profound ethnic modification equivalent to the appearance of the Indo-European peoples." Later processes during the European Upper Palaeolithic and especially the Magdalenian cultures probably led to the formation of the Indo-European language and cultures (Otte 1997, 80).

Such a synthesis of archaeological and linguistic processes is a strong contradiction of all what the Nostratic hypothesis and its archaeological interpretation says about a suggested Nostratic homeland in the area between the Levant and Western Iran, dated to (hitherto undetermined) periods of the Upper Palaeolithic. Any further progress to achieving a better understanding clearly depends on reconciling oppositely forwarded beliefs and opinions on the origins of modern man, its archaeological cultures and time depths.

## References

- Alinei, Mario. 1996, 2000. *Origini delle lingue d'Europa*, vols. I-II. Bologna.
- Aurenche, O. – M. Le Mièrre – P. Sanlaville (eds.). 2004. *From the River to the Sea: the Palaeolithic and the Neolithic on the Euphrates and in the Northern Levant*. BAR S1263. Oxford.
- Bienkowski, P. - A. Milard. 2000. *Dictionary of the Ancient Near East*. London.
- Cauvin, J. 2000. *The Birth of the Gods and the Origins of Agriculture*. Cambridge.
- Charvát, P. 2002. *Mesopotamia before history*. London - New York.
- Burkitt, Miles – V. Gordon Childe. 1932. *Chronological table of prehistory. Supplement to Antiquity*, June 1932, columns 2 and 3.
- Childe, V. Gordon. 1939. The Orient and Europe. *AJA* 44, 1939, 10-26, and the chronological table.
- Gamkrelidze, Thomas V. 1970. "Anatolian languages" and the problem of Indo-European migration into Asia Minor. *Studies in General and Oriental Linguistics, presented to Shirô Hattori*. Eds. Roman Jakobson and Shiegho Kawamoto. Tokyo, 138-143.
- Gamkrelidze, T.V. and V.V. Ivanov. 1995. *Indo-European and Indo-Europeans*, I-II. Translated from Russian by J. Nichols. Berlin – New York, 1995.
- Harmatta, János. 1989. Das Pelasgische und die alten Balkansprachen. *Linguistique Balcanique* 9:1, 1964, 41-47.
- László, Gyula. 1961. *Őstörténetünk legkorábbi szakaszai*. (In Hungarian: The earliest periods of the prehistory of the Finno-Ugrians. Archaeological remains of the Finno-Ugric prehistory in the Soviet Union). Budapest, 1961.
- \_\_\_\_\_. 1987. *Őstörténetünk*. (In Hungarian: Our prehistory). 3<sup>rd</sup> ed., Budapest.
- Makkay, János. 1989. "V. G. Childe on chronological correlations between the Orient and Europe". In: *Neolithic of Southeastern Europe and its Near Eastern connections. Varia Archaeologica Hungarica* 2, Budapest, 177-181.
- \_\_\_\_\_. 1992. "A Neolithic model of Indo-European prehistory". *Journal of Indo-European Studies* 20: 3-4, 193-238.
- \_\_\_\_\_. 1996. "C-14 Chronology: Eastern Europe." *Acta Archaeologica* 67. Supplementa I, 1996: Absolute Chronology. Archaeological Europe 2500-500 BC, ed. by Klavs Randsborg. København, 1996, 219-225.
- \_\_\_\_\_. 2000. "The earliest prehistory of Indo-European and Uralic/Finno-Ugric speaking peoples in Miklós Gábori's model". In: *A la recherche de l'Homme Préhistorique, sous la recherche de Zsolt Mester and Árpád Ringer*. *E.R.A.U.L.* 95, Liège, 69-82.
- \_\_\_\_\_. 2001. "The earliest Proto-Indo-European – Proto-Uralic contacts: an Upper Palaeolithic model". In: *Early Contacts between Uralic and Indo-European: Linguistic and Archaeological Considerations, papers presented at an international symposium held at Tvärminne, 8-10 January, 1999*. Eds. Chr. Carpelan, A. Parpola and P. Koskikallio. *Mémoires de la Société Finno-Ougrienne* 242, Helsinki, 2001, 319-343.

- \_\_\_\_\_. 2002. "Egy magyar amatőr véleménye az uráli finnugorság származásáról, II. rész: a kőkor vége". (In Hungarian: A Hungarian amateur's opinion on the origin of the Uralic Finno-Ugrians, part II: The end of the Stone Age). Budapest, 2002.
- \_\_\_\_\_. 2003. "An archaeologist speculates on the origin of the Finno-Ugrians". *The Mankind Quarterly* 43:3, 2003, 235-271.
- \_\_\_\_\_. 2003a. *Origins of the Proto-Greeks and Proto-Anatolians from a common perspective*. Budapest.
- Mallory, James P. – D.Q. Adams (eds.). 1997. *Encyclopedia of Indo-European Culture*. London and Chicago: Dearborn.
- Mallowan, M.E.L. 2001. *Mallowan's Memoirs*. London.
- Mallowan, M.E.L. and J.C. Rose. 1933. *Excavations at Tell Arpachiyah*, 1933. *IRAQ* 2, 1935, 1-178.
- Otte, Marcel. 1997. "The diffusion of modern languages in prehistoric Eurasia". In: *Archaeology and language, vol. I. Theoretical and methodological orientations*. Eds. Roger Blench and Matthew Spriggs. London - New York: Routledge, pp. 74-81.
- Özdoğan, A. 1999 = A. Özdoğan: Çayönü. in (eds.) M. Özdoğan and N. Başgelen: *Neolithic in Turkey, the cradle of civilization*. Istanbul, 1999, Text, 35-63.
- Özdoğan, M. and H. Hauptmann – N. Başgelen. 2003. Köyden Kente. From villages to cities. *Early villages in the Near East. Studies presented to Ufuk Esin*, vols. I-II. Istanbul, 2003.
- Potts, D.T. 1999. *The archaeology of Elam*. Cambridge.
- Renfrew, Colin. 1987. *Archaeology and Language. The Puzzle of Indo-European Origins*. London.
- \_\_\_\_\_. 1989. "Models of change in language and archaeology". *Transactions of the Philological Society* 87:2, 1989, 103-155 and 172-178.
- \_\_\_\_\_. 1991. "Before Babel: speculations on the origins of linguistic diversity". *Cambridge Archaeological Journal* 1:1-3, 1990, 3-23.
- \_\_\_\_\_. 1997. "World linguistic diversity and farming dispersals". In: *Archaeology and language, vol. I. Theoretical and methodological orientations*. Eds. R. Blench and M. Spriggs. London - New York: Routledge, pp. 82-89.
- \_\_\_\_\_. 1999. "Nostratic as a linguistic macrofamily". In: *Nostratic: examining a linguistic macrofamily*. Eds. C. Renfrew and D. Nettle. Cambridge, pp. 3-17.
- \_\_\_\_\_. 2000. "At the edge of knowability: towards a prehistory of languages". *Cambridge Archaeological Journal* 10:1, 2000, 7-34.
- Rosenberg, M. 1999. "Hallan Çemi". In *Neolithic in Turkey, the cradle of civilization*. Eds. M. Özdoğan and N. Başgelen. Istanbul, Text, 25-33.
- Sherratt, A. – S. Sherratt, 1988. "The archaeology of Indo-European: an alternative view". *Antiquity* 62, 1988, 584-595.

- Shevoroshkin, V.V. 1989. "A symposium on the deep reconstruction of languages and cultures". In *Reconstructing languages and cultures. Abstracts and Materials from the First International Interdisciplinary Symposium on Language and Prehistory Ann Arbor, 8-12 November, 1988*. Ed. V.V. Shevoroshkin. Bochum: Brockmeyer, pp. 6-8.
- Solecki, R.S. – R. L. Solecki – A. P. Agelarakis. 2004. *The Proto-Neolithic Cemetery in Shanidar cave*. Texas University Press, 2004.
- Szemerényi, O. 1989. "Concerning professor Renfrew's views on the Indo-European homeland". *Transactions of the Philological Society* 87:2, 156-165.



## VOWEL HARMONY AND OTHER FORMS OF VOCALIC ASSIMILATION IN MONGOLIC

Peter A. Michalove

1. It was in the 19<sup>th</sup> century that scholars, primarily native speakers of Indo-European languages, began to systematically investigate the Uralic and Altaic languages and discovered the apparently unusual feature of vowel harmony. They concluded, on the basis of the Uralic and Altaic languages, that vowel harmony was a form of [+back] agreement, both within the stem and between the stem and suffixes. (More recent work, however, has shown that vowel harmony in the Tungusic languages goes back to an ATR system. See Ard 1980.) Earlier researchers also concluded, on the basis of these languages, that vowel harmony is an exclusively progressive (rightward from an initial trigger) process.

Nowadays of course, we know that vowel harmony is not such an exotic feature; it occurs in numerous African, native American, and other languages. And despite the difficulty of defining vowel harmony cross-linguistically (see Anderson 1980), there is no doubt that it is a type of vocalic assimilation, a very common phenomenon. We also know that vowel harmony is not exclusively progressive. There are examples of vowel harmony spreading bidirectionally from a non-initial trigger syllable, such as the Bantu language Kàlòŋ, spoken in Cameroon. There are also cases of dominant/recessive vowel harmony, such as Chukchi and Koryak, spoken in the Russian northeast. In these languages a dominant set of vowels is opposed to a recessive set: the phonological word contains vowels from the recessive set only if all of the vowels in the word are recessive. If the word contains a dominant vowel in any position, then the other vowels harmonize with it by shifting the relevant features to their dominant counterparts. Thus, a dominant vowel may trigger vowel harmony progressively (rightwards) and regressively (leftwards).

This paper will deal with the question of directionality in Mongolian vowel harmony and other forms of vocalic assimilation. While no one disputes that vowel harmony operates in an exclusively progressive direction in Mongolian, it is striking that almost all of the other cases of vowel assimilation in Mongolian are regressive. As the title of this paper indicates, we see vowel harmony simply as a particular form of vocalic assimilation. The question before us, then, is to find a consistent explanation of vowel assimilation that covers both the progressive vowel harmony, as well as the other, overwhelmingly regressive cases of vowel assimilation in Mongolian.

A further note about terminology is in order here. Classical Mongolian refers to the literary language of the 17<sup>th</sup> and 18<sup>th</sup> centuries, written in the Uyghur

script. The orthography of this language was established in the 13<sup>th</sup> century, before such developments as the loss of most intervocalic voiced velars; and the breaking of the vowel /i/, as discussed below. The classical language is not the direct ancestor of the modern Mongolic languages, and is not the earliest attested form of Mongolic. However, its orthography reflects the speech of the early 13<sup>th</sup> century (or a conservative speech community of that period), with some minor exceptions that do not affect our discussion here, and so may be used as a reliable, attested stand-in of the speech form from which diachronic changes to the modern languages may be observed.

Since vowel assimilation implies a diachronic process, we will primarily discuss the forms of assimilation reflected in correspondences between the classical language and modern Khalkha Mongolian (the literary language of modern Mongolia, based on the dialect of Ulaan Baatur), with occasional reference to other Mongolic languages as appropriate.

2. Before going further, we should set out how vowel harmony works in Mongolian. In the classical language, there is a simple form of [+back] vowel harmony, operating both within a stem; and from a stem to suffixes. There are three front vowels, /e, ö, ü/ and three corresponding back vowels, /a, o, u/. Thus Classical Mongolian distinguishes *ger-ün* 'house-GEN'; and *γar-un* 'arm-GEN'.

In addition there is a neutral vowel, /i/, which is transparent to vowel harmony; it does not alternate with any other vowel, and vowel harmony operates across /i/ within a word. Monosyllabic stems in /i/, other than the personal pronouns, uniformly take front-vowel suffixes. Thus, *γil* 'year' forms the genitive *γil-ün*. But the pronouns *bi* 'I' and *či* 'thou' form the genitives *minu* and *činu*. The unattested third-person singular pronoun *\*i* takes the attested genitive *inu*. (See Poppe 1955: 84-89, 1964: 11-12.)

Mongolian vowel harmony, then, operates in rightward fashion from the initial syllable, or more precisely, from the first non-neutral vowel of the word. The phonological word is defined to include the interrogative enclitic *-Ü*. Examples of the interrogative in Khalkha Mongolian include:

- (1)     *ta yav-n-          ü*  
         you go- PRESENT-INTERROGATIVE  
         'Are you going?'

- (2)     *ta mede- n-          ü*  
         you know-PRESENT-INTERROGATIVE  
         'Do you know?'

Mongolian is an exclusively suffixing language, so that the lexical value of a word, the stem, is always in the leftmost position. It has a strong dynamic stress

on the initial syllable, which has led, in Modern Mongolian, to the reduction or loss of many medial and final vowels. Word-initial stress is attributed to earlier attested stages of the language, going back at least to the 13<sup>th</sup> century, on the basis of initial stress in most of the modern languages, progressive vowel harmony, the loss or reduction of vowels in non-initial syllables in the modern languages (compared to 13<sup>th</sup>-century texts), and a tradition of alliterative poetry as the following example illustrates.

Alliteration in Mongolian literature is found as early as the *Secret History of the Mongols*, a biography of Chinggis Khan dating from the 13<sup>th</sup> century, and the first attested literary work of the Mongols. Alliteration occurs in the verse passages, and many of these represent folk poetry predating the 13<sup>th</sup> century. In the *Secret History*, there is a well-known episode (§118), in which Temüjin's blood-brother, Jāmuqa, asks whether they should camp by the mountains or by the stream.<sup>80</sup>

(3)	a'ula šiqan bawuya adu'učin bidan-u alačuq-a gürtügei.	Let us camp close to the mountains. Let our horse-herders Establish (their) tents.
	qol-tur šiqan bawuya qoni(n)čit quriqačit bidan-u qo'olai-a gürtügei.	Let us camp close to the river. Let our shepherds and lamb-herders Satisfy their throats.

This passage not only shows alliteration at the beginning of each line of the verse, but further alliteration within each verse. Both verses show the internal alliteration *bawuya* 'let us camp' ... *bidan-u* 'our' between the first and second lines. The second line of the second verse alliterates *qoni(n)čit quriqačit* 'shepherds and lamb-herders' (a hendiadon, referring broadly to keepers of domestic animals). Between the two verses, there is the parallelism expressed by *a'ula šiqan* 'close to the mountains' and *qol-tur šiqan* 'close to the river'. The word *gürtügei* 'may they reach (satisfy, attain)' punctuates each verse because it is the only front-vowel word in the verse. Such elaborate literary use of alliteration indicates that a dynamic word-initial stress was salient to speakers and must have operated some time before the 13<sup>th</sup> century.

3. In the development of the modern Mongolic languages, there are a number of examples of regressive vocalic assimilation. Two of the best known of these are the "breaking" of the vowel /i/; and the treatment of intervocalic voiced velars, that is,

<sup>80</sup> Here I have used the Romanization of de Rachewiltz (1972:48), but substituted <č> and <š> for de Rachewiltz's <c> and <s>.

the combination VGV, in which <G> is a cover symbol for the allophones [g] and [ɣ].

The breaking of the vowel /i/ refers simply to the assimilation of /i/ in an initial syllable to the vowel in the following syllable, usually followed by the loss or reduction of the trigger vowel. Straightforward examples are Classical Mongolian *miqa(n)* ‘meat, flesh’, corresponding to Khalkha Mongolian *max*; and Classical Mongolian *čisun* ‘blood’, corresponding to Khalkha Mongolian *cus*. There is sometimes a trace of the original /i/ in the form of palatalization of the preceding consonant, as in Classical Mongolian *kirsa* ‘steppe wolf’, which corresponds to Khalkha Mongolian *ɣars*.<sup>81</sup>

The treatment of forms showing the sequence VGV in Classical Mongolian usually results in the loss of the intervocalic voiced velar and the subsequent contraction of the two vowels into a long vowel, which then attracts stress in the modern language. The quotation cited above from the *Secret History* reflects a speech form in which intervocalic voiced velars have been lost, but the two adjacent vowels have not yet contracted. In transliteration, the resulting vowel cluster is traditionally separated by an apostrophe (e. g. *a'ula* ‘mountain’, the first word of the passage cited above, represents Classical Mongolian *aɣula*).

If the two vowels have the same quality in the classical language, then there is no question of the outcome in the modern forms: Classical Mongolian *ulayan* ‘red’ corresponds to *ulān* in Khalkha Mongolian; and *degere* ‘up, upwards’ to Khalkha Mongolian *dēre*. If the two vowels being contracted are of different quality, and the first vowel of the sequence is unrounded, then the quality of the second vowel prevails. For example, Classical Mongolian *qatayū* ‘hard’

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<sup>81</sup> Janhunen (1990:182) reserves the term “breaking” only for those forms in which some trace of the original /i/ is preserved, such as *ɣars* (Classical Mongolian *kirsa*), but not for forms such as Khalkha *max* (Classical Mongolian *miqa(n)*), which he says entails, “a change in the quality of the vowel of the initial syllable under the regressive influence of the vowel of the following syllable.” Janhunen would apply the term “breaking” to the Buriat equivalent of this form, *myaxe*. He states (p. 182) that, “[i]n assimilation some information is always being lost, while in breaking information is only being condensed into the initial syllable. In other words, breaking typically leads to the restructuration [sic], but not to the neutralization, of phonological oppositions.” Janhunen considers cases like Khalkha *cus* (Classical Mongolian *čisun*) to be ambiguous because the initial affricate contains a palatal element in any case.

I continue to use the term “breaking” in the broader sense that is traditional in Mongolic linguistics, as in the works of Ramstedt (1903: 45-47), Vladimircov (1929: 176-190), Poppe (1955:36-44) and Poppe (1956). Even if we grant the distinction that Janhunen draws, both developments represent examples of regressive assimilation, which is our concern here.

corresponds to Khalkha Mongolian *xatū*. Similarly, *jige* ‘grandchild, daughter’s child’ corresponds to Khalkha *dzē*. The cases in which the first vowel of the sequence is rounded require a separate discussion, and we will deal with them in section 5 below.

4. The question is then, why would a language with dynamic stress on the initial syllable, progressive vowel harmony, and a tradition of alliterative poetry, have primarily regressive vocalic assimilation when the assimilation takes a form other than vowel harmony? We can begin to answer this question by looking at the phenomenon of vocalic assimilation itself. Javkin (1979: 75-76), examining 365 segmental assimilatory rules from 60 languages in the Stanford Phonology Archive, found 195 cases of regressive assimilation, compared to 89 cases of progressive assimilation. Specifically, Javkin finds that, “vowel harmony, unlike tone spreading, is not predominantly preservative.”

Similarly, Hyman (2002) asks whether vowel harmony shows a cross-linguistic bias toward leftward operation. He finds that it does, unless there are particularly prominent factors in the initial syllable to override this bias. In languages with bi-directional vowel harmony, Hyman argues, the regressive harmony is more robust and requires less conditioning than progressive harmony. For example Kinande, a Bantu language spoken in eastern Zaire, has ATR harmony that may operate in either direction. But regressive ATR vowel harmony targets all vowels, while progressive ATR harmony targets only high vowels. Further, /a/ is either transparent or undergoes vowel harmony in regressive harmony; while it is opaque in progressive vowel harmony. (See Archangeli and Pulleyblank 1994, Mutaka 1995.)

In addition, regressive vowel harmony across a word boundary is more widely attested or more robust than progressive harmony. Here, Hyman cites examples not only from Kinande, but Nez Perce, Nawuri, Vata, and Somali.

The early Germanic languages provide further evidence to suggest that vocalic assimilation in general tends to be regressive. As with Mongolic, the early Germanic languages had a dynamic stress on the initial syllable, and this factor is commonly invoked to explain developments such as the loss or reduction of inherited PIE vowels in subsequent syllables; and the widespread use of alliteration as a literary technique. (See Prokosch 1939, Meillet 1949, Lehmann 1956.) Yet for all the prosodic prominence of the initial syllable at the expense of subsequent syllables, the north and west Germanic languages developed an elaborate and once-productive system of umlaut, or regressive vocalic assimilation. This is seen in well-known examples in modern German, such as *Sohn* ‘son’, which takes the plural *Söhne*; and *hart* ‘hard’, which takes the comparative *härter*. The situation is even clearer in modern German forms such as *schön* ‘beautiful’, in which the umlaut is triggered by a subsequent front vowel that has since been lost (cf. Middle

High German *schæne*). In these cases, the tendency for regressive vocalic assimilation has overridden the factor of relative stress.

Thus, when we ask why a language with word-initial stress and progressive harmony should have regressive vocalic assimilation, we are asking the question the wrong way around. As Hyman (2002:23) states, “VH is preferentially anticipatory (right-to-left), other things being equal”, although he qualifies this (p. 29, fn. 21) by saying that, “[t]his may especially be true of ATR and umlaut-like processes which seem preferentially to be anticipatory.” Based on the findings of Javkin and Hyman, regressive vocalic assimilation should be the norm, and progressive assimilation (of which progressive vowel harmony is simply a subtype) requires some sort of conditioning.

In Mongolian, this conditioning is found in the prominence of the initial syllable. The initial syllable has both lexical prominence (the stem is always the first element in the word) and prosodic prominence (dynamic accent). These factors provide the conditioning that allows progressive vowel harmony to override the broader tendency for regressive assimilation. These conditions also obtained (at least historically) for the Uralic, Turkic, and Tungusic languages, which have progressive vowel harmony, although it has subsequently been lost or weakened in some of them, such as the Uralic languages Komi and Udmurt; and in some Mongolic languages, such as Mongour and Dagur, spoken in China.

If we see vowel harmony simply as a subtype of vocalic assimilation, with the same properties as vocalic assimilation in general, then the types of vocalic assimilation we have seen in Mongolic between a trigger syllable and its immediate neighbor, such as the breaking of /i/; and the contraction of vowels after the loss of voiced velars, show the general rule of regressive vocalic assimilation at work. However, vowel harmony, which takes the word as the relevant phonological domain, is more sensitive to the overall prosodic shape of the word, and therefore operates progressively in Mongolic (and generally in the relevant Uralic and Altaic languages). Thus, we can capture both progressive vowel harmony as well as the other, primarily regressive forms of vocalic assimilation in a consistent manner.

In fact, there are only two kinds of progressive vocalic assimilation that occur in Mongolian. One is vowel harmony itself, and the other is rounding assimilation, which we will discuss below. All other cases of vocalic assimilation in Mongolian appear to be regressive.

**5. Rounding assimilation.** While rounding harmony is relatively common among the languages of the world, causing target vowels to become [+round], Van der Hulst and van de Wejer (1995: 505) state that, “[n]o examples of [-round] harmony systems have been put forward.” Hyman (2002: 7), citing Applegate (1971), suggests that Ineseño, a form of Chumash spoken in southern California, provides a possible but rare example of [-round] harmony. Rounding, then, appears to be a

particularly powerful assimilatory feature, and assimilation in Mongolian behaves consistently with this finding, frequently bringing about progressive rounding.

The most obvious example of rounding assimilation is that Modern Khalkha Mongolian has developed progressive rounding harmony when the target vowel is [+low], i.e. /a, e, o, ɔ/ (and their long counterparts). The trigger vowel is a [+low] vowel in the stem. An intervening /i/ is transparent to this harmony. For example, *xöl* 'foot' takes the dative-locative *xöl-dö*, the instrumental *xöl-ör*, etc. *sara* 'month' takes the dative-locative *sara-da*, the instrumental *sar-ār*, etc. Note that /i/ is neutral in *morin* 'horse', with dative-locative *mori-do*, instrumental *mori-ör*, etc. /i/ is also neutral in suffixes, such as the accusative suffix *-ig*: *xöl-ig*, *sar-ig*, *mor-ig*. This rounding harmony cannot cause unrounding because there are no suffixes formed with an underlying low rounded vowel, /O/ (a cover symbol for /o, ɔ/).

Another important case of rounding assimilation is in the treatment of the groups VGV after the loss of the voiced velar. As we saw in section 3, the resulting long vowel has the quality of the second vowel if the first vowel is [-round]. Classical Mongolian *qatayu* 'hard' corresponds to Khalkha Mongolian *xatū*. Similarly, *jige* 'grandchild, daughter's child' corresponds to *dzē*.

However, if the first vowel is [+round] the outcome is consistently rounded: /Ō/. For example Classical Mongolian *ögede* 'up, upwards' corresponds to Khalkha Mongolian *öd*; and *toya* 'number' corresponds to Khalkha *tō*. Even if the triggering rounded vowel is [+high], the outcome is still a low rounded vowel, /Ō/. For example, Classical Mongolian *ṣiruya* 'ambler' corresponds to Khalkha *ṣorō*; and *čilüge* 'space, free time' to Khalkha *čölō*. Thus, the vowel assimilation in this case is analogous to a dominant/ regressive system of vowel harmony, in which the feature [+round] is dominant, yielding a rounded vowel if either member of the pair is rounded.

(Note that the examples *ṣorō* and *čölō* indicate that the resolution of the groups VGV occurred before the breaking in Khalkha Mongolian. Thus, the sequence of developments was *ṣiruya* > *ṣirō* > Khalkha Mongolian *ṣorō*. Both the treatment of VGV and the breaking are attested as early as the 13<sup>th</sup>-century, but the relative timing and extent of implementation of the breaking vary among the Mongolic languages.)

An early, frequent (if not entirely *lautgesetzlich*) case of progressive vowel assimilation in Mongolian is the development of \*/A/ > /O/ within the stem, following a syllable with /O/. For example *oran* 'place' is attested in the 13<sup>th</sup> and 14<sup>th</sup>-century 'Pags-pa' texts, but is represented as *oron* by the time of the earliest Uyghur inscriptions in the 13<sup>th</sup> century. This development did not occur in the western dialects. Thus we find Classical Mongolian *doloyan* 'seven' (< \**dolayan*), which corresponds to *dolō(n)* in Khalkha Mongolian, but is attested as *dolān* in Kalmyk, a western Mongolic language. The low rounded vowel, \*/O/ occurred only in initial syllables in proto-Mongolic, so perhaps this availability of phonological



space in non-initial syllables accounts for the ability of these vowels to spread rightwards so easily.

Regressive rounding assimilation occurs irregularly, triggered by a rounded high vowel as in Khalkha Mongolian *ödör*, corresponding to Classical Mongolian *edür* 'day'. Of course, without original low rounded vowels in non-initial syllables, there was no opportunity for regressive rounding from a low vowel.

The high rounded vowels generally did not cause progressive rounding. For example *üne(n)* 'true, truth' is attested in Classical Mongolian and in the same form in Modern Khalkha. An isolated example of progressive rounding harmony triggered by a high vowel is Classical Mongolian *ülü* 'not', which developed from an original \**üli*. Although the original form is unattested, we find evidence of it in modern Mongour *lī* and Bao-an *le*, with regular loss of the initial *ü-* in these languages. Significantly, loss of the initial vowel is correlated with the loss of word-initial stress and the loss of vowel harmony in these languages. Buriat does not use the negative form *ülü*, but the oral epic literature, which preserves a number of archaic forms, attests *üle* in Buriat.

There is an interesting type of regressive rounding assimilation in the Mongolic language Dagur, in which the breaking discussed above extends to a form of labial breaking (Todaeva 1986: 11-14). For example Dagur *xware* 'rain' corresponds to Classical Mongolian *qura*; and Dagur *wale* 'sole' corresponds to Classical *ula*. Here, the vowel /u/ of the initial syllable is assimilated to the vowel of the following syllable, but the new vowel of the initial syllable is pre-labialized, retaining a vestige of the original /u/.

Thus, cross-linguistically, the unmarked direction of vocalic assimilation is likely to be leftwards, as Javkin argues, and as Mongolian illustrates in the majority of cases. The exceptions in Mongolic are vowel harmony and rounding assimilation. Vowel harmony operates progressively in Mongolic, and many other Altaic and Uralic languages because the relevant domain for vowel harmony is the phonological word, so that vowel harmony is more sensitive to the overall prosodic shape of the word. In these languages, the word is characterized by the greater lexical and prosodic prominence of the initial syllable. In Mongolian, the behavior of the interrogative enclitic *-Ü* adds independent evidence to the role of the word as the relevant phonological domain for vowel harmony.

It remains to be seen why the feature of rounding is so prominent cross-linguistically that it spreads easily in both directions. One possible avenue of explanation is that, while unrounded vowels involve only the positioning of the tongue and jaw, the articulation of rounded oral vowels involve the lips as additional speech organs, thus inducing greater variability (protrusion and/or rounding) and magnitude of articulatory gestures.

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## References

- Anderson, Stephen R. 1980. Problems and perspectives in the description of vowel harmony. In Vago 1980: 1-48.
- Applegate, Richard P. 1971. Vowel harmony in Chumash. *Berkley Papers in Linguistics* 1: 3-12.
- Ard, Josh. 1980. A sketch of vowel harmony in the Tungus languages. *International Review of Slavic Linguistics* 5: 23-43.
- Archangeli, Diana and Douglas Pulleyblank. 1994. *Grounded Phonology*. Cambridge: MIT Press.
- Binnick, Robert, I. 1980. The underlying representation of harmonizing vowels: evidence from Modern Mongolian. In Vago 1980: 113-134.
- Darbeeveva, A. A. 1996. *Istoriko-sopostavitel'nye issledovanija po grammatike mongol'skix jazykov: fonetika*. Moskva: Nauka.
- Van der Hulst, Larry and Jeroen van de Weijer. 1995. Vowel Harmony In John A. Goldsmith (ed.) *The Handbook of Phonological Theory*, 495-534. Cambridge MA: Blackwell.
- Hyman, Larry. 2002. Is there a right-to left bias in vowel harmony? Presentation at the 9<sup>th</sup> International Phonology Meeting, Vienna, November 1, 2002.
- \_\_\_\_\_. 2003. 'Abstract' vowel harmony in Kálòŋ: a system-driven account. In Patrick Sauzet and Anne Zribi-Hertz (eds.) *Typologie des langues d'Afrique et universaux de la grammaire*, 85-112. Paris, L'Harmattan.
- Janhunen, Juna. 1990. On breaking in Mongolic. In Bernt Brendemoen ed. *Altaica Osloensia: Proceedings from the 32<sup>nd</sup> Meeting of the Permanent International Altaistic Conference, Oslo 1989*, 181-191. Oslo: Universitetsforlaget.
- Javkin, Hector. 1979. *Phonetic universals and phonological change. Report of the Phonology Laboratory 4*. Berkley: University of California-Berkley.
- Lehmann, Winfred P. 1956. *The Development of Germanic Verse Form*. Austin: University of Texas Press.
- Meillet, Antoine. 1949. *Caractères généraux des langues germaniques*<sup>7</sup>. Paris: Librairie Hachette.
- Mutaka, Ngessimo. 1995. Vowel harmony in Kinande. *Journal of West African Languages* 25:41-45.
- Orlovskaja, M. N. 1999. *Jazyk mongol'skix tekstov XIII-XIV vv.* Moskva: Akademija Nauk Rossii.
- Paulian, Christiane. 1986. Les voyelles en nù-kàlç\$NEŞ: sept phonemes, mais... *Cahiers du LACITO* 1: 51-65. Paris: Centre National de Recherches scientifiques.
- Poppe, Nicholas. 1950. The groups \*uɣa and ɣge in the Mongol languages. *Studia orientalia* 14.8: 1-15.
- \_\_\_\_\_. 1951. *Khalkha-Mongolische Grammatik*. Wiesbaden: Franz Steiner.
- \_\_\_\_\_. 1955. *Introduction to Comparative Mongolian Studies*. Helsinki: Suomalais-ugrilainen Seura (= *Mémoires de la Société Finno-ougrienne* 110).

- \_\_\_\_\_. 1956. On the so-called breaking of \*i in Mongolian. *Ural-Altaische Jahrbücher* 28:43-48.
- \_\_\_\_\_. 1964. *Grammar of Written Mongolian*<sup>2</sup>. Wiesbaden: Harrassowitz.
- Prokosch, Eduard. 1939. *A Comparative Germanic Grammar*. Philadelphia: Linguistic Society of America.
- De Rachewiltz, Igor. 1972. *Index to the Secret History of the Mongols*. Bloomington: Indiana University (= Uralic and Altaic Series 121).
- Ramstedt, G. J. 1930. Das Schriftmongolische und die Urgamundart phonetisch verglichen. *Journal de la Société Finno-ougrienne* 21:2.
- Todaeva, B. X. 1986. *Dagurskii jazyk*. Moscow: Nauka.
- Vago, Robert M. (ed.). 1980. *Issues in Vowel Harmony: Proceedings of the CUNY Linguistics Conference on Vowel Harmony, 14<sup>th</sup> May 1977*. Amsterdam: John Benjamins.
- Vladimircov, V. Ya. 1929. *Sravnitel'naja grammatika mongol'skogo pis'mennogo yazyka i xalxaskogo narečie. Vvedenie i fonetika*. Leningrad: RAN.
- Weiers, Michael. 1969. *Untersuchungen zu einer historischen Grammatik des präklassischen Schriftmongolisch*. Wiesbaden: Harrassowitz (= *Asiatische Forschungen* 28).

# **THE AUSTRALIAN ABORIGINAL LANGUAGES CORRELATE WITH THE NOSTRATIC PHYLUM**

**Shamil Nafiqoff**

0. In the light of our present knowledge, no genetic link between the Australian languages and languages outside Australia can be assumed to exist with any degree of certainty, voiced the currently widespread opinion of the well known expert in the field S. Wurm (1972:9), and in the same vein also Dixon (1980:238). The linguistic isolation of the Aboriginal tongues has been generally upheld in spite of some XIXth century scholars' statements to the contrary (Bleek 1851 and others). In our days this line has been continued by Blažek (1989) and some other long-range researchers.

Hereby the author submits to the readers' attention some points in which the Aboriginal idioms may have things in common (be it typologically or otherwise) with Nostratic (Ns) phylum languages.

1. The general make-up of the two can be said to have at least one major feature in common:

- Proto-Australian (pA) had a fairly agglutinative structure (Dixon, op. cit.:226)
- The eastern branch of Ns languages including the Ural-Altaic and Dravidian families feature the same morphological type while the Western branch families, for example the IE, are also surmised to have been agglutinative in the past (see here Lehmann 1962, Bomhard & Kerns 1994:124).

## **2. Syntactic similarities**

2.1. Statistically there seems to be some preference for the [word] order S-O-V in transitive sentences. The order S-O-V seems to be the basic Australian sentence pattern (Wurm, op.cit.:68).

2.2. In the Aboriginal languages the Subject of a sentence is employed with no affix in most cases (Homburger 1951:30). Indeed, in many Pama-Nyungan (PN) languages an intransitive Subject is unmarked and is used in the Absolutive case, with zero realization (Dixon, op.cit.:22).

2.3. At the same time the indigenous tongues possess a widespread Direct Object marker *-na* (Wurm op.cit:63). Take an instance from a PN language, Dungidjan:

<i>tyaan-tu</i>	<i>pukiny-nya</i>	<i>pumi</i>
man-erg.	dog-obj.	hit
'the man hit the dog' (Wurm 1994:747)		

The Australian idioms have a widespread feature viz. an Ergative/agentive suffix that indicates the actor of an action expressed by a transitive verb, see above (loc.cit.).

2.4. Scholars generally write of a bipartite division within the Aboriginal tongues encompassing a) Accusative languages and b) Ergative ones. K. Hale for one believes that a number of the Australian languages could be regarded as constituting a mixture of Ergative and Accusative types (after Wurm 1972:62).

2.5. The SOV pattern is characteristic of most Ns families as well (Bomhard & Kerns op.cit. 157 sqq).

The direct object in Ns, if equated with the PN Absolutive is also said to have a zero indication (op.cit.:81). The Ns counterpart of *-na*, is plainly seen in *-n* 'oblique forms suffix' (Illich-Svitych 1976-78). In point 2.4. the two macro-families under study also coincide (Bomhard & Kerns op.cit. 162-165)

### 3. Morphological Correlates

3.1. In the system of Personal pronouns three persons are distinguished, the third often being a demonstrative.

1st person sg. *nga*, 2nd person sg. *ngin-* ~ *ngjin*, both with petrified Ergative suffixes *ngadju*, *ngindu*, etc. According to A. Capell (1956) the root-form of the pronoun in question is \*nga-, with the said suffix variants (*-dju* ~ *-du* ~ *-ju* ~ *-da* ~ *-ju*) in most Central Australian (PN) groups and in many West Australian languages. Against this background Woiwuru (Kulinic group) has *wa-n* and Wanman (SW group) features *bara* for 'I'.

The second and third person plural forms *njura* and *dana* are found in many areas. compare this with the southern Australia's Narrinyeri *il* 'he' (Wurm 1972:63, 81-82; Dixon, op.cit.:78).

3.2. Very instructive for the comparative and/or historical linguist is R.Dixon's apt statement that:

...common ergative suffix *-nggu* ~ *-lu* ~ *-du* and the accusative *-nya* provide an obvious grammatical clue to a unity of pA languages, ergative allomorphs also being *-tu*, *-ngku*, *-lu*, the latter after a vowel; the pA accusative taken to have been *-nya* ~ *nha* (Dixon, op.cit:224,308,471).

3.3. The Nostratic Pronouns reveal many resembling feature (Bomhard & Kerns 1994:156 sqq., 171) to the items referred to above.

The PN's *\*na-/nə-*, *\*ni-/ne-* 'a demonstrative stem' (op. cit.:688) is very likely to correlate with the forms discussed as well. The Nostratic oblique *n-* stem also compares well enough with the accusative *-nya ~ nha* (vida supra) (op. cit.:173-178).

#### 4. Phonetic Parallels

4.1. From the viewpoint of syllable structure in most of the Aboriginal languages simple patterns of the type CV, CVC are reported (Wurm 1972:55). Thus evident is a historical continuity with the pA monosyllabic words (Dixon, op.cit.:470). (Emphasis added - Sh.N.).

4.2. Further, in most languages under study stress happens to fall onto the first syllable (Wurm op. cit.:57).

4.3. As quoted from the sources cited (p.104) according to such authority as A. Capell, a three vowel system featuring /i, u, a/ is conjectured for the Australian Languages as being the original one.

4.4. The pA system of consonants phonemes is reconstructed by Dixon (op.cit:177) to be:

<i>b</i>	<i>d</i>	<i>j</i>	<i>g</i>
<i>m</i>	<i>n</i>	<i>ny</i>	<i>ng</i>
<i>w</i>	<i>r</i>	<i>y</i>	

Among the laryngeals the glottal stop is a recent development going back to /g/ or /d/ or /r/ in different languages (op.cit.:470). Yet in the North Pamam subgoup a frequent occurrence of the glottal stop phoneme is observed (Wurm, op.cit.:142).

4.5. Phonologically the word-initial clusters of consonants are absent from most Australian languages. In them /r/ and retroflex consonants are not found word initially (op.cit.:56).

4.6. The Proto-Ns inventory of phonemes shows as a number of resemblances with the Australian languages. Compare such vowels as /i, ə, u, e, a, o/ and /m-, n-, l-, r-/ among liquids; /q<sup>[h]</sup>-, q'-, ʔ-, h-/ i.e. laryngeals, two laterals, a number of palatalized and aspirated consonants (Bomhard & Kerns op. cit.125-131). Ergo there are grounds to state the more primordial character with the pA phonetic inventory. Root structure patterning in Proto-Ns resembled 4.1 (v.s.) (op.cit.:123,192).

#### 5. Some Lexical Matches

5.1. According to some modern long-range studies the Aboriginal glosses are not in the least 'in a state of linguistic isolation' (v.s.), so to speak. In various Australian languages one comes across common/lexical/core words for 'woman, female' of the type *ginaia ~ -gun*. In extinct Tasmanian of the Indo-Pacific stock they have a cognate *quani* 'idem'. From the ancient Amerindian Tonkawa (Texas) we get *kwaan* 'woman'. Among the Altain branch of Nostratic, namely Turkic 'one of the wives in polygamy' is

\**kūni*, all boiling down to a common [Mother Tongue] \*\**kuni* ‘woman’ (Bengtson 1989:176).

5.2. Way back in 1956 A. Capell had suggested such Common Australian vocabulary items as (quoted from Dixon, op. cit.:119):

<i>bina/pina</i> ‘ear’	<i>gugu</i> ‘water’
<i>bula</i> ‘two’	<i>mara/mala</i> ‘hard’
<i>jalang</i> ‘tongue’	<i>warlu</i> ‘fire’

5.3. An off-hand glance at the Ns core vocabulary entries reveals many correlates of the glosses mentioned above, at the inspectional level at least. The reconstructed Nostratic vocabulary may match the Aboriginal glosses in, say:

- \**aK'u* ~ *gugu* ‘water’
- \**g'uλV* ‘glowing coals’ ~ *ɲurra* ‘fire’
- \**jVnV* ‘speak’ ~ *bina/pina* (?) ‘ear’;
- \**mužkA* ‘fist’ ~ *mara/mala* (?) ‘hand’

Some presumable cognates would be more preferable: cf. Ns \**mar-na* ‘hand’; Drav. \**pāl* ‘pant, share’ ~ IE \**pol-* ‘half (ad *bula*); Ural. \**ńālmā* ‘tongue’ (ad *jalang*); Ns \**haw-* ‘rain’ (ad *gugu*).... (compiled from various sources).

## 6. In Lieu of a Conclusion

6.1. A number of languages around the world have hardly been successfully shown to be related to any others - in at least some cases because any related idioms have long been extinct. The Aboriginal tongues of the Green continent are exemplary in this respect. The Aboriginal languages of Australia are conservatively classified in 26 families, the largest being Pama-Nyungan, consisting of about 200 languages originally spoken over 80-90 per cent of Australia.

6.2. Not a few experts in the field (R.M. Dixon and others) criticize the proposed Nostratic and other similar super-families, proceeding in holding long-range comparison attempts in little respect.

6.3. The present author’s vision of a deep, Nostratic or pre-Nostratic-type connection between Australian and those languages is herewith exemplified by certain cursive parallels offering a rather large testimony to the Nostratic phylum’s certain external long-range relationships.

## References

Bengtson, John. 1989. *Paleolexicography: a tool toward language origins*. Studies in Language Origins. Amsterdam: Philadelphia, Vol.2.

*Australian Languages correlate with Nostratic*

- Blažek, Václav. 1989. In Shevoroshkin (ed.) *Reconstructing Languages and Cultures. Abstracts and Materials from the First International Interdisciplinary Symposium on Language and Prehistory Ann Arbor, 8-12 November, 1988*. Bochum: Brockmeyer.
- Bleek, Wilhelm. 1851. *De nominum generibus linguarum Africae, Australia, Copticae, Semiticarum aliarumque seualium*. Bonnae.
- Bomhard, Allan R. & John Kerns. 1994. *The Nostratic Macrofamily: a study in distant genetic relationship*. New York-Berlin: Mouton de Gruyter.
- Capell, Arthur. 1956. *A New Approach to Australian Linguistics*. Sydney.
- Dixon, Robert, M. 1980. *The Languages of Australia*. Cambridge: Cambridge University Press.
- Homburger, Lilian. 1951. *Langage et les langues*. Paris: Payot.
- Illich-Svitych, Vyacheslav. 1976. *Opyt sravnenija nostraticheskich jazykov. Tom II*. Moskva, Nauka.
- Lehmann, Winfred, P. 1962. *Historical Linguistics*. New York: Routledge.
- Shevoroshkin, Vitalij, V. 2003. Personal communication. Ad. Blažek, V.
- Wurm, Stephan, A. 1972. *Languages of Australia and Tasmania*. The Hague-Paris: Mouton.
- \_\_\_\_\_. 1994. Australian Aboriginal Languages. *New Encyclopaedia Briannica*, Vol.22.





# PROTO-SALISHAN AND PROTO-NORTH-CAUCASIAN CONSONANTS: A FEW COGNATE SETS

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This paper contains Salishan [=Sa], Wakashan [=Wk], and North(-East)-Caucasian [=N(E)C] cognate sets in which uvular stops are present. On many occasions, N(E)C voiced uvular stops match Sa and/or Wk fricatives (thus indicating spirantization in these languages).

The following sources have been used below:

- A.Kuipers's *Salish Etymological Dictionary* ([=SED], Missoula, MT, 2002), and
- S.Nikolaev's and S.Starostin's *A North Caucasian Etymological Dictionary* [=NCED], Asterisk, Moscow, 1994; additional materials (Sa and Wk forms from known dictionaries and word lists) have been used as support for the data presented in appropriate comparative tables.

Abbreviations of language names are the same as in SED and NCED for Sa[lishan] (note also CoS = Coast Sa; CeS = Central Sa; IS = Interior Sa; NWk = North Wakashan: Kw[akiutl], Ha[isla], He[iltsuk]; SWk = Soth Wakashan: No[otka], Ni[tinat], Ma[kah]); some abbreviations from NCED have been further shortened: AvA = Av.-And. = Avar-Andian, Lzg = Lezg. = Lezgian or Lezgi, Ts = Tsez. = Tsezian or Tsezi).

Each set in our SED - NCED comparison is, as usually, presented as a table line, divided in 3 parts:

gloss; Sa, Wk forms; SED page(s)	NC or NEC root; NCED page(s)	cognates in certain N(E)C lang-es
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On most occasions, I follow A.K.'s reconstruction in SED; my occasional additions/alternations to reconstructed roots are put in brackets. In the case of IS \*r (:NC \*r) I follow those who consider IS \*r as original, and IS \*l (after a retracted vowel) as secondary. In CoS, \*r shifted to \*x, etc.

Supportive sets, which follow a table, usually cover material from languages insufficiently represented in SED, especially, CoS/CeS and Wk.

## I. NONGLOTTALIZED UVULAR STOPS

<u>SCRATCH</u> , <i>tickle</i> PS *qəs 85	EC *qālšV s. 883	<u>AvA</u> *qas:- /Drg *q:ars- /Ts *χ:šs:
(IND.) POTATO PS(<Wk?) *qaw[ə]c / SWk:No qá:wac p-s 85	EC *qā[w]žV <i>some berry or small fruit</i> (> *qāwVž ?) 890	Nkh *qēž/ç <i>currants</i> /AvA *kaza <i>apricot</i> /Ts *χ <sup>w</sup> cu/Drg *qaza c.
? TO NURSE PS *qam [inv.] 84	NC *mōnqī <i>breast</i> (also <i>female br. in Lzg; bosom in</i> WC) 829	<u>Ts</u> *χimV(-rV) /Nkh *nāqa /Drg *miqiri /Lzg *moχor /WC *mVq:a

Cf., in different SaWk languages:

- 1) TOOTH+: CoS: UC qák<sup>w</sup> *bit, front teeth* (-k<sup>w</sup> < \*-mkU ?) // EC 883  
\*qāmV *fang, molar, stake* / AvA \*q/χanq/χa (o) *f., canine tooth* / Ts  
\*χ:og- *molar t.* / Lzg \*χa(m)k *picket, s.* / Khin χak *s.*
- 2) ANT+: CoS:BC qac-qit (assim. T-T <\*T-T' ?) // NC 884 \*q/GāmVc'V (/G-)  
/Nkh \*qēç/ž- /Lk qac
- 3) PILLOW: NWk qit- // EC 457 \*GHĭĭ<sup>w</sup>V *sack, p.* / AvA \*q:iĭin(-dV) *id.* /  
Ts \*qeĭ-cV *p.*
- 4) STONES: NWk Gga *gather s.* (deuv.) // EC 463 \*GörGV (/GH-) *s.* / Lzg  
\*qIarqI(a) *rock*

**NOTE:** There are sets where Sa q' (showing a secondary glottalization due to the loss of several features) matches N(E)C \*q, \*q (ex. 1). A secondary labialization may appear in ex. 2.

- 1) OLD, AGE: IS:CO maq'- (q' < \*nq, or q' < \*H--q ?) *o., used* // EC 809  
\*mh/fiēnqV *time (coming of age>) marriage* / Nkh \*χān *time, age* / AvA  
\*mVq:V *t., m.+* / Drg \*meq: *m.+*
- 2) DIRT: CoS:UC q<sup>w</sup>ic' *bad, d-y* //NC 884 \*qānc<sup>w</sup>V *dirt* / AvA \*q/χa(n)ç:V /Ts  
\*qic (>Bzht qica) < \*qic /WC \*χ<sup>w</sup>ənəç<sup>w</sup>V <\*χənəç<sup>w</sup>V *d., mire.* (Sa assim.  
C<sup>w</sup>-C' < \*C<sup>w</sup>-C<sup>w</sup> [cf. WC]; ablaut i<\*i/a?)

## II. SPIRANTIZATION OF THE UNDERLYING VOICED UVULAR

### \*G IN Sa-Wk

The following exx. show PS \*χ/\*ʕ, \*γ vs N(E)C \*G, \*G (> AvA  
\*q:/\*q:, Ts \*ɛ:/\*χ, \*Drg \*ɛ)

*Proto-Salishan & Proto-North-Caucasian*

(LARGE) FELINE PS *s- mɣaw [but Sm -məy'aw <*məryáw?] 70	EC *mHarGVwV <i>tom-cat</i> 816	Ts *maɣ:ur- (/χ) /Lq q:urmaw / Lzg *marq:law
CUT (AS HAIR) PS *ʕi/al 134	NC *=VGVI <i>c., clip, shear</i> 1019	AvA *=uq:-/*q:ir- / Lk q̣u=q̣i- / Drg *=alɣVn- /Khñ -äq̣- /WC *q̣ə
BITE (v.) PS *xəm [inv.?] 127	NC *HēmGÄ [ʔ/GēmHA] <i>b.</i> 559 ( <i>eat</i> in Nkh, Ts, Khin)	Nkh *=aq̣- /AvA *q̣:am- /Ts *=ūq̣ /Lzg *ʔeq̣:i- /Khñ q̣in /WC *q̣IA

Cf. IS:Th x<sup>w</sup> (expected x) vs EC \*q (but Lzg \*χ:).

- 1) ? RUB: IS:Th c'ix<sup>w</sup> (glott./spir. as Lzg) //EC 348 \*čVqV *scratch, r.* /Lzg  
\*čix:an- *scrape, r., peel*.

### III. NON-GLOTTALIZED LABIO-UVULAR STOPS

DRINK (v.) PS *q <sup>w</sup> u? / *ʔuq <sup>w</sup> 91	EC *ʔu/ɔqwV <i>to d.</i> 221	Lzg *ʔoq <sup>w</sup> a- > Lzg q <sup>w</sup> a-, Ag uq-
? BLUE (+YELLOW) PS *q <sup>w</sup> ay 94	NC *=čqwa <i>y. (&gt; blue)</i> 414	And *q <sup>w</sup> oj <*ʔaq <sup>w</sup> o-ji- <i>b.</i>

Cf. in other Sa-Wk languages (\*q<sup>w</sup> : N(E)C \*qw, \*q̣w):

- 1) PATCH: IS:CO t'q<sup>w</sup>- (as EC stem II) /Kw t'əG<sup>w</sup>ə- (/g<sup>w</sup>) //EC 399 (Drg/Lzg)  
[\*dHeq<sup>w</sup>V or] \*t'Heq<sup>w</sup>V *spot, p.* / [Drg \*deḱ<sup>w</sup>a *p.* > Ak deḱa / Lzg  
\*ṭe/äq̣I<sup>w</sup>(a) *speck, spot* > Lzg \*ṭe<sup>w</sup>χ / \*ṭeχ<sup>w</sup>]
- 2) EGG: CoS:UC q<sup>w</sup>ó-q<sup>w</sup>-s-ti //EC 906 [\*q̣wVṭVq̣'V/] \*q̣wV-q̣'V-ṭV *egg+* /Ts  
\*q̣ṣq̣-IV [/Lzg \*q̣:VIVq̣:] (Cf. EC 932 \*q̣'wā-q̣'wV-ṭV *seed, grain, egg*).
- 3) PIGEON: CeS:Ld (s-)quʔ-q<sup>w</sup>a-č *sea-p.* // NC 471 \*q̣wĩn-q̣wV (/G) *p.* / Lzg  
\*q̣:w̄i-q̣:-, \*q̣:u-q̣:
- 4) ? WILT, *die (out)*: CeS:Ld ṭəq<sup>w</sup> *wilt* //EC 635 \*=ilq/χwV- *d. (o.)* /AvA \*=iq<sup>w</sup>-  
*d.* / Lzg \*ʔilχ<sup>w</sup>e *d.*
- 5) STONE: Kw xq<sup>w</sup>a, x̣x<sup>w</sup>a (assim.; cf. Lzg, Abkh) *gather s-s* // NC 1070 (Lzg-  
WC) \*χemq̣wV *s.* / Lzg \*χ<sup>w</sup>emχ(a) *big s., boulder+* / WC \*χaq<sup>w</sup>ə *s.* >  
Abkh χaḥw, Abaz ḥaqwə].

**NOTE** a match PS \*q<sup>w</sup>- : N(E)C \*Gw(H) > AvA \*ɣ<sup>w</sup>-, Ts \*χ

LUMP, <u>HEAP</u> PS *q <sup>w</sup> əm (/k <sup>w</sup> -) 45	EC *Gwǎnmē <i>heap, stack</i> 467	AvA *b <sup>w</sup> ini /Ts *χeme 467
<u>HEAP</u> PS. *q <sup>w</sup> up sub *k <sup>w</sup> /q <sup>w</sup> up 46 [Li *q <sup>w</sup> u?p- <i>bushy</i> , Th -q <sup>w</sup> up- <i>quilt</i> ]	NC *GwHVbV ( <i>hay</i> ) <i>stack</i> 470	AvA *b <sup>w</sup> ibV ( <i>h.</i> ) <i>s.</i> , <i>heap</i> /Ts *χob <i>h.-s.</i> /WC *qI: <sup>w</sup> abla <i>heap...</i>

Cf. delabialization of the underlying labio-uvulars both in Sa-Wk and N(E)C daughter languages:

[ <u>WOMAN</u> , <i>mother</i> ] PS *qana? [/Kw Gəná <i>small</i> <i>female</i> ] 84	NC *qwǎnV <i>wo.</i> 900	<u>Nkh</u> *qin <i>wife+</i> /Ts *binV <i>wo.</i>
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Cf. Sa-Wk \*q (delab.) vs N(E)C \*qw (note also vowels: NWk i : AvA \*i):

1) HORN: IS:MC qəχ (+ -min); Sp qχ //NC 903 \*qwīrHV /AvA \*q<sup>w</sup>VrV /Lk qi  
/Drg \*qi / WC \*q̇:<sup>w</sup>a.

2) SCOOP: NWk c'iq- //NC 332 \*č'ǎqwǎ (/č-q'w-) *sc.*, *spoon* /AvA \*č:ik(:)V-  
/Lzg \*čǎq̇<sup>w</sup>>Tab čaqa.

NOTE: NWk shows q, not the expected [k].

The following set shows glottalization of the underlying voiced labio-uvular stop in Sa [\*q<sup>w</sup>] and AvA [\*q̇:<sup>w</sup>], \*-q̇:<sup>w</sup>] vs NC \*Gw.

Ch χ <sup>w</sup> úq <sup>w</sup> - <i>windpipe+</i> ; + <i>larynx</i> (sub PS *χ <sup>w</sup> u/aq <sup>w</sup> <i>grind+</i> ) 128	NC *fōmGwī/ě <i>throat</i> , <i>mouth</i> 526 (differ.: PS *χ <sup>w</sup> u/aq <sup>w</sup> <i>grind+</i> )	<u>AvA</u> *hi(n)q̇: <sup>w</sup> V <i>th.</i> <u>Lzg</u> *ɽ <sup>w</sup> amq̇: (/h-) <i>th.</i> / <u>WC</u> *q̇ <sup>w</sup> ə, *q̇ <sup>w</sup> m.
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Cf. also Sa \*q<sup>w</sup> : NWk q' : EC \*G(H)w (glottalization both in Sa and AvA):

1) SWALLOW: IS:Cb wǎlq<sup>w</sup>- *s.*, *drink* (inv.) // EC 613 \*HVI-GwV(l) *s.*,  
\*GHwal-t'V *a gulp* / AvA \*HVRq̇: *s. a mouthful of water* / Lzg  
\*ʔVlq(I):<sup>w</sup>Vl *s.*

Cf. a match NWk q<sup>w</sup>--G<sup>w</sup> : EC \*Gw--\*Gw : AvA \*q̇:<sup>w</sup>--q̇:<sup>w</sup>, next:

2) ? THROAT: NWk:He q<sup>w</sup>en-G<sup>w</sup>a- // EC 473 \*Gwan-Gwa *th.*, *larynx* / AvA  
\*q̇:<sup>w</sup>an-q̇:<sup>w</sup>a

#### IV. SPIRANTIZATION OF UNDERLYING Gw-TYPE STOPS IN Sa-Wk

On many occasions, SaWk languages show fricatives \*χ<sup>w</sup>, \*χ vs NC \*G(H)w, \*GHW (>\*χ<sup>w</sup>, etc.)

SHEEP, <i>goat</i> PS [ $*\chi^w a\lambda =$ Cr] sub $*s-\chi^w i\lambda'ay'$ <i>mountain</i> g. 128	EC $*Gw\ddot{a}l\ddot{a}$ <i>doe, homeless g.</i> 465	Nkh $*\varepsilon ala$ d. /AvA $*\varepsilon^w alV$ (/-o-) <i>h.g., h. ram</i> /Ts $*\varepsilon^w el/t$ d.
DIG OUT, <i>make a hollow</i> PS [ $*\chi^w \ddot{a}l/?$ ] sub $*\chi^w \ddot{a}l$ [ $<*\chi^w \ddot{e}r$ ] 120	NC $*Gw\ddot{a}l\ddot{?}i$ <i>hole, burrow</i> 468	Nkh $*\dot{q}or-V\dot{k}$ b. /AvA $*\dot{q}^w irV$ b., <i>dug-out+</i> /Lzg $*q:ul$ /WC $*\varepsilon^w a$ h.
LOG, <i>stick, wood</i> PS $*\chi\ddot{a}c'-$ <i>ay'</i> /? NWk $\chi c'$ - (root) <i>canoe</i> 124	EC $*GHw\ddot{a}l\ddot{c}V$ s., <i>board,</i> <i>bolt</i> 459	Ts $*\chi^w \ddot{e}š:u$ <i>bar, (door)bolt</i> > Gin $\chi i\ddot{š}u$ / Khin $q:i\ddot{c}\ddot{a}$ <i>branch</i>

Cf. also the following set where Wk  $*\chi$  matches EC  $*Gw$  (> AvA  $*\varepsilon$ , Ts  $*\chi$ , etc.)

- 1) BREAST: SWk  $=\chi u:\lambda-$  // EC 465  $*Gw\ddot{a}l\ddot{f}\ddot{e}$  *breast* (also *udder*) /AvA  $*\varepsilon^w arHV$   
/Ts  $*\chi\ddot{e}ru$  /Lk  $q:\ddot{w}ar$ .

**NOTE:** It seems that the underlying root of the type CVCVC ( $<*\text{CwVCCV}$ ) preserves both syllables and all 3 consonants if the stress is on the 2nd syllable ( $q\ddot{e}l\ddot{a}\chi-$ ) but loses the end part -VC if the stress is on the 1st syllable ( $\chi\ddot{e}l$ ).

2e. Sa  $*\chi$  (+stressed V) / $*q$  (+unstressed V) : N(E)C  $*Gw$  >AvA/Drq  
 $*\varepsilon^w$ , Lk  $q:$ , Lzg  $*qI$ , Khn  $q$

HURT, <i>angry+</i> CeS $*\chi\ddot{e}l$ /IS:Th $qilil$ <i>get a.</i> /CoS:UC $q\ddot{e}l\ddot{a}\chi-$ a., BC $qilix$ h., <i>insult, type CVCVC</i> ] 218	EC $*Gw\ddot{a}l\ddot{f}\ddot{h}o$ <i>offence, anger+</i> 465 [Sa $*-\ddot{e}l\chi-$ matches EC $*-\ddot{f}ho$ ]	AvA $*\varepsilon^w VIV$ <i>gossip,</i> <i>abuse+</i> /Lk $q:al$ g., <i>rumor</i> /Lzg $*qIal:$ o., a. Khin $qol$ <i>offence</i> (:Nkh $*q-$ )
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Cf. SaWk  $*\chi^w$  (+stressed V) :  $*q(')$  (+unstressed V) : N(E)C  $*Gw$ ,  $*G\ddot{u}$ :

- 1) TREMBLE, *shake, be afraid*: CoS:UC  $q^w an\ddot{u}-$  *fear, a.* (a : EC  $*a$ ) /NWk  $\chi^w n-$   
*sh., t.*, SED 54 //EC 553  $*=H\ddot{a}Gwan-$  t., *be a.* /AvA  $*\varepsilon i\chi Vn$  *be nervous,*  
*sh.* /Lzg  $*\ddot{?}a\dot{q}:I^w Vn-$  t., *sh., be a.* > Arch  $=qI^w in$
- 2) THUNDER+ (redupl.): CeS:Ld  $\chi^w \ddot{e}-q^w e-b$ ,  $\chi^w i-q^w \ddot{e}-di?$  /IS:MC  $\chi^w \ddot{u}-q^w \ddot{e}-m$  *snore*  
/NC 464  $*G\ddot{u}r-GV$  th. / Nkh  $*\varepsilon u\chi$  / AvA  $*\varepsilon ur-\varepsilon V-$  / Drq  $*q:u-q:u$  / Lzg  
 $*q:(r)-q:ur$  /WC  $*\varepsilon^w a-\varepsilon^w a$  *to th., to rumble*]
- 3) WORM+: [IS:CO  $m'\ddot{a}šmla?$  ( $<*\text{m?}a\ddot{š}al-\text{?})$ ] CeS:Sm  $m\ddot{e}-m\ddot{e}\chi\ddot{e}l$  *caterpillar* (partial  
inv.; delab.; spirantiz. before a stressed vowel) // NC 817  $*mHil/\ddot{a}GwV$   
*w.* / Drq  $*milaq:I^w$  w. / Lzg  $*mulaqI^w$  w., *snake* / Khin *mok w.* (but Ts,  
WC originate from the inv. form NC  $*GHwimal/V$ ).

Similar: CoS \*x<sup>w</sup> (before a stressed vowel; note inversion) : NC \*q(u) in the next set.

- 1) ASHES+: CoS:UC x<sup>w</sup>ál- *cold ashes, dust* // NC 742 \*la/ěqū *a., d.* / Lk lax *id.*  
WC \*t-q:<sup>w</sup>a *a., grey (hair)*. (Cf. pt. D, section 4e).

## V. GLOTTALIZED UVULAR STOPS

The following table shows Sa \*q' vs EC \*q' (> AvA \*q̣:, Ts/Drg \*q̣)  
/NC \*q'H (>Ts \*q̣, WC \*q̣<sup>w</sup>)

SWALLOW+ PS *maq' (Cl -maq'í) /*q'əm (+in <i>throat</i> , <i>gullet</i> ) 69/88	EC *mVq'VíV <i>th., larynx</i> , <i>chute</i> + 840	AvA *maq̣:ala <i>th., l.</i> / Ts *muq̣ <i>th.</i> / Drg *muq̣luq̣ <i>ch.</i> +
? SMALL <u>OWL</u> IS *s-q'ax <sup>w</sup> 181	NC *q'HVrV-q'V <i>eagle-owl</i> + 921	Ts *q̣al-q̣ala / WC *q̣ <sup>w</sup> Vrə

Note that IS \*-x<sup>w</sup> may match NC \*-rU-.

Cf. also Sa \*q' vs N(E)C \*q'/\*q' in the following sets.

- 1) CUT, *chop(ped piece)*. PS \*q'ət (IS:Sp s-q'tí-m *scar* / CoS:UC q'át-xi- *hit*,  
*strike with a stick*) / NWk q'at- *c. with a chisel* //EC 915 \*q'štwV  
*stump, board, ch-d p.* /AvA \*q̣:a/ot<sup>w</sup>V *c., chop+* /Ts \*q̣otu *board, splinter*  
/Lzg \*q̣at *piece, chopped block, remnant* (assim.: T'-T' < T'-T)  
2) BOOTS: IS:MS q'e? (<\*q'əx?) *shoes+* //EC 913 \*q'ǣrV (*felt*) b.+ /Drg  
\*q̣lar(V) *top of a boot*  
3) FOOT, *stand up*. CoS:UC t'áq'aw(i)- (CVCVw-stem) *move (stand up)* // EC  
\*t'Hálq'wV (CVCCw-) *part of leg* / Ts \*ṭq̣<sup>w</sup>V/\*ṭuq̣V *sole of foot* (loss  
of \*l in Sa, Ts) / Lzg \*ṭelq̣í/\*ṭulq̣í *shin, ankle*.

## VI. GLOTTALIZED LABIO-UVULAR STOPS

[HAIR ON HEAD] PS *q' <sup>w</sup> um <sup>I</sup> 97	NC *q'(w)ǎm?š <i>plait, mane</i> , <i>h.</i> 931	Lzg q̣am <i>p., m.</i> + /WC *q̣í <sup>w</sup> ə <i>hair+</i>
HEAD PS *q' <sup>w</sup> um <sup>II</sup> 97 [diff.: <i>lump</i> ]	EC *hq'wēmV <i>horn, head</i> 494	Lzg *q̣'ēm <i>summit, top</i>
SKINNY PS *q' <sup>w</sup> ax <sup>w</sup> 97	EC *q'warHV <i>narrow &gt;thin</i> 933	Lzg *q̣í <sup>w</sup> arV- <i>th., emaciated</i> , <i>n.</i>
YOUNG /FEM. DEER PS *q' <sup>w</sup> ay 98	EC *q'fīwētV /q'-fī <i>mare, cow</i> 917	Drg q̣í <sup>w</sup> al <i>c.</i>
BARK [/CoS:UC q' <sup>w</sup> íl- <i>cedar b.</i> ] sub PS [IS?] *q' <sup>w</sup> əl[?] <i>birch[b.]</i> 92	EC *q'wǎíV <i>bark, crust</i> 931	AvA *q̣ <sup>w</sup> Vli <i>crust, rind</i> > Akhv q̣oli / Ts *q̣'el ( <i>birch</i> ) <i>bark</i>

**NOTE** to BARK: Not to PS \*q<sup>w</sup>al/y to *scorch, black+*; \*q<sup>w</sup>əy *rock, sway*.

Cf. Sa-Wk \*q<sup>w</sup> [/q<sup>l</sup>] vs N(E)C \*q<sup>l</sup>(H)w, \*q<sup>w</sup> in the following sets:

- 1) BEND: IS:Th ɬaq<sup>w</sup>-ewt *bend over* (inv.) / SWk:Ma q<sup>w</sup>aɬ- *b* // NC 637 \*ɬilq<sup>w</sup>wa(ɬ) / AvA \*q<sup>l</sup>:ul-
- 2) GOAT+: IS:Th təx<sup>w</sup>áq<sup>w</sup>- (1<sup>st</sup> stem in *doe*) // EC 403 \*dVrq<sup>w</sup>vV *male g.* / AvA \*dVq<sup>(w)</sup>V-n > Av deʕén / Ts \*ɬq<sup>w</sup>V (assim.). (Either Sa \*x<sup>w</sup> [before V] from \*(r)q<sup>w</sup>, or \*x<sup>w</sup> < \*x < \*r in CVCVC)
- 3) WRING, *twist*: IS:MC q<sup>w</sup>ic'- // EC 925 \*q<sup>w</sup>Hwēmč'V *hook, curved* / Lzg \*q<sup>l</sup>wa(m)čV- *to bend+*
- 4) (SMALL) STICK: Kw q<sup>w</sup>əɜ- *peg* // EC 935 \*q<sup>w</sup>ərč'A *stick* / Ts \*q<sup>w</sup>Vč *small s.+* / Lzg \*q<sup>w</sup>erč *id.*
- 5) SHOVEL, *paddle*: NWk q<sup>l</sup>us-a- *p., go by boat* // EC 941 \*q<sup>w</sup>iswā *wooden sh., spoon* / Lk q<sup>l</sup>usa *sp.* / Drg \*q<sup>l</sup>us:a *id.* / Lzg \*q<sup>l</sup>usV-j *sh., p.* - Cf. also EC 941 \*q<sup>w</sup>ššV *scoop, vessel*.

The following sets, Sa-Wk show delabialization and/or deglottalization of the underlying uvular stops. Similar situation is observed in N(E)C daughter languages.

Sa \*q<sup>(l)</sup><sup>w</sup>/\*q<sup>l</sup>, NWk q<sup>l</sup><sup>w</sup>/G NC \*q<sup>w</sup>/\*Gw Lzg \*q<sup>l</sup><sup>w</sup>/\*q<sup>l</sup>:l, WC \*q<sup>w</sup>

MUD CoS *c <sup>l</sup> iq <sup>l</sup> 224 [:Cl c <sup>l</sup> iq <sup>w</sup> ; *c <sup>l</sup> iq <sup>w</sup> <i>dirt</i> , UC Dict.. sub c <sup>l</sup> iq <sup>w</sup> i- <i>dig</i> / NWk *c <sup>l</sup> /ɜiq <sup>w</sup> /G- <i>dirt</i> ]	NC *č <sup>l</sup> Hq <sup>l</sup> wa (/G) <i>dung, dirt+</i> 387 [Sa q <sup>w</sup> <*q <sup>w</sup> ; Sa q <sup>w</sup> <*Gw; Sa q <sup>l</sup> as in Lzg; cf. NWk q <sup>w</sup> /G]	Lzg *č <sup>l</sup> q <sup>l</sup> <sup>w</sup> /*č <sup>l</sup> q <sup>l</sup> :l (Kryz čāq, Bud čuq) <i>dirt+</i> / WC *čVq <sup>w</sup> ə <i>manure, dung</i>
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Cf. SaWk \*q<sup>l</sup>(<sup>w</sup>) vs N(E)C q<sup>w</sup>-type sounds in the following exx.

- 1) SEW: IS:Li s-q<sup>l</sup>ən / CeS:Se q<sup>l</sup>ən'ay *needle* / NWk q<sup>l</sup>n- *sew, stich* (He q<sup>l</sup>én-t *shoot*) // NC 637 \*ɬilq<sup>w</sup>Vn *stick into, sew* / AvA \*ɬiq<sup>l</sup>:(Vn)/q<sup>l</sup>:(<sup>w</sup>)in-sew > Akhv, Tind q<sup>l</sup>:in- / WC \*q<sup>w</sup>ə *stick into*
- 2) DIRT: CoS:UC q<sup>l</sup>axāy? *mud* (:q<sup>l</sup>axā- *smear*) / NWk:He q<sup>l</sup>x<sup>w</sup> *dust, d.+* // NC 916 \*q<sup>l</sup>h<sup>l</sup>/wōrV *d. turf* / Ts \*q<sup>l</sup>ōrV *d.* / Lzg \*q<sup>l</sup>ar *d., snivel* [Altern.: NC 911 \*q<sup>l</sup>ārē *earth, d.* / Lzg \*q<sup>l</sup>āra *d., swamp, marsh*]
- 3) BELT: CeS:Se q<sup>l</sup>it' (:q<sup>l</sup>it'-it *to bandage*) / NWk:He q<sup>l</sup>it- *embrace* (Sa-Wk \*q<sup>l</sup>) // EC 923 \*q<sup>l</sup>Hwart'V *belt+* / Ts \*q<sup>l</sup>ata- as in Gin q<sup>l</sup>atali (delab. as in CoS; loss of \*r as in CoS and NWk)
- 4) GROUP: Kw q<sup>l</sup>i-q<sup>l</sup>a- *bunch, g.* // EC 917 \*q<sup>l</sup>fiw<sup>l</sup>-q<sup>l</sup>a *g., crowd* / AvA \*q<sup>l</sup>:i- q<sup>l</sup>:a / Lk \*q<sup>l</sup>ul-qa.

Note \*q<sup>w</sup>/\*q' in Sa and the matching \*q'/\*q<sup>w</sup> in NC, next.

CeS \*q'-q', IS \*q<sup>w</sup>-q<sup>w</sup> NC \*q'-q'(w) Ts \*q̣<sup>w</sup>-q̣, Lzg \*q̣-q̣, WC \*q̣<sup>w</sup>-q̣<sup>w</sup>

BONE PS [=CeS *q'a- ]q'awał /NIS *[q <sup>w</sup> ə-]q <sup>w</sup> uʔ-ł (=Th <i>large b.</i> ) 90	NC *q'amq'(w)ă <i>knee</i> , <i>leg-bone</i> (compound *q'am- q'wăʔ) 907	Ts *q̣ <sup>w</sup> ăq̣u <i>tubular b.</i> / Lzg *q̣amq̣ <i>k.</i> /WC *q̣ <sup>w</sup> a-q̣ <sup>w</sup> a <i>hip-b-s</i>
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The following two sets show Sa \*q' (delab.) vs N(E)C \*q<sup>w</sup>, \*q'Hw (cf. Lak).

CARRYING STRAP CoS *q'ala (Se q'ala <i>headband of c. s.</i> ) 149 [/NWk q'al- <i>plait a rope+</i> ]	EC *q'wăłV <i>rope, saddle-girth</i> 930	AvA *q̣ <sup>w</sup> alV (:Bezht <u>Khosh</u> qal) / Ts *-q̣ <sup>w</sup> elV / Lzg *q̣ <sup>w</sup> VIV
<u>HARDEN</u> (also <i>stiffen</i> , <i>freeze</i> ) PS *q'ax <sup>w</sup> [/IS *q'iḫ <i>strong, hard+</i> (cf. EC:Drg, Lk q̣--q̣); a/iʔ] 90/181	NC *Hamq'wA (> *q'amHwV; *Hw> *x <sup>w</sup> /x <sup>w</sup> ?) <i>hard</i> , here also *q'Hwam-q'wA 543	AvA *q̣ <sup>w</sup> an-ka <i>hard(en)</i> / Drg *q̣almq̣- <i>hard</i> /Lk q̣aln-qa- <i>h.</i> , <i>rigid</i> <*q'Hwam-q'(w)A [cf. IS]

The following two sets show Sa \*q<sup>w</sup>/\*q<sup>w</sup> vs EC \*q<sup>w</sup> (cf. delab. in AvA, Ts, Drg).

HAVE PLENTY IS *q <sup>w</sup> a/iy [but MS q <sup>w</sup> o/ey <i>much, rich</i> , <i>p.</i> ] 183	EC *q'wăł/ějē <i>things/possessions</i> 930	AvA *q̣ <sup>w</sup> aʔi /Ts *q̣aj <i>load+</i> / Lk q̣aj <i>th.</i> / WC *q̣ <sup>w</sup> a <i>yard</i>
? THROAT+ PS *q̣enu/ax <sup>w</sup> 84 [?/PS *q <sup>w</sup> in <i>throat+</i> sub PS *=q̣in / CoS *=iq <sup>w</sup> 208]	EC *q'winV <i>Adam's apple+</i> 940	Ts *q̣in <i>crop, crawl</i> / Drg *q̣un <i>Adam's apple</i>

Cf. also Sa-Wk \*q<sup>w</sup> (deglo.) vs N(E)C \*q<sup>w</sup>-, \*q<sup>w</sup>-, \*-rq<sup>w</sup>- in the following sets:

- 1) TAIL: IS:Li q<sup>w</sup>əc (assim. T-T < \*T'-T' ?) // NC 934 \*q'wAc'A / Lzg \*q̣<sup>w</sup>Vç  
> Tab q̣uç
- 2) STICK, *log*. CeS:Ld q<sup>w</sup>(ə)áy' //NC 936 \*q'wăłʔă *board* / Lzg \*q̣ula *b., shelf+*  
/WC \*G<sup>w</sup>ə *b., pole+*
- 3) DIRT: Kw niq<sup>w</sup>- (early deglo.) *murky, muddy, dirty (water)* // EC (Ts-Lzg)  
848 \*nēq<sup>w</sup>i (-ă-) *earth, d.* / Ts \*nəq<sup>w</sup> *d.* / Lzg \*năq<sup>w</sup> *e+.*



- (NWk roots [next 3 sets] seem to show a late deglottalization NWk q<sup>w</sup> : EC \*q'w, \*q'w):
- 4) LUMP: NWk q<sup>(w)</sup>uq<sup>w</sup>- *l, knob* // EC 936 \*q'werqV (*tight knot* /Lk q:urq(:) (assim.) / Lzg \*q'werq
- 5) ? SWALLOW (v.): NWk n'q<sup>w</sup>- (inv.) // EC 618 \*HVq'wVn *id.* / AvA \*=ik:Vn / Lzg \*ʔeqI<sup>w</sup>Vn
- 6) DIRT: NWk:He mīq<sup>w</sup>- // EC 818 \*mHīrq'wV *dirt, rust* /Lzg \*mirq:I<sup>w</sup> > Rut miqI /Kihn maqal *dirt*

## VII. A PRELIMINARY NOTE ON A NON-GENETIC REGROUPING OF Sa-Wk AND NC LANGUAGES

At some point, NC languages, as well as Sa-Wc languages (as we think, a part of NC languages) have been regrouped:

- NC:** Group I: Nakh, Tsez, Lezg, WC [preserving NC intervocalic stops \*q'w, \*q'w, \*q<sup>w</sup>]
- Group II: EC: AvA, Lak, Darg, Khin [changing the above stops to \*k(')<sup>w</sup>, \*k'].]
- Sa:** Group I: IS l-ges [preserving \*q'(w), \*q(w) in certain roots where other group shows velars]
- Group II: CoS/CeS l-ges; some Wk l-ges [changing the above uvulars into velars]

This parallelism between Sa-Wk and NC languages may be illustrated as follows [Table 1 represents Group I languages (IS:MC; proto-NC, WC, proto-EC, Ts, Lzg); Table 2 represents Group II languages (CoS, ? some Wk dialects; EC:AvA, Ts, Lk, Drg, Khin)]:

1. IS:MC q<sup>w</sup>; NC \*tq'Hw, EC \*q'H(w) Ts \*q<sup>w</sup>, Lzg \*qI<sup>w</sup>, WC \*qI<sup>w</sup>

IS:MC tq'a-w's <i>two</i>	NC *tq'Hwā <i>two</i> NCED 924	WC *tqI <sup>w</sup> A <i>two</i> > <u>Ub</u> tq <sup>w</sup> a Ts *q <sup>w</sup> i-nV / Lzg *qI <sup>w</sup> ā <i>two</i>
IS:MC t'q <sup>w</sup> -m-aw's(-ən) <i>together</i> (:PS *-was, *- <u>alwas</u> <i>pair</i> →)	EC *q'Hā-m-V <del>l</del> wV <i>1 of wives</i> NCED 917 / NC *tq'Hwā <i>two</i>	(WC *tqI <sup>w</sup> A >) <u>Ub</u> tq <sup>w</sup> a <i>two</i>

Cf. a Kartvelian borrowing from WC languages: \*t'q'ub *twins*.

2. CoS \*k', SWk:No k<sup>w</sup> EC (\*q'Hw >) \*k<sup>w</sup> AvA \*k, Lk k, Drg \*k<sup>w</sup>, Khn k

SWk:No[otka] k <sup>w</sup> a:y- <i>twins</i>	(EC *q'Hwā <i>two</i> ; *q'Hw- >)*k <sup>w</sup>	Drg *k <sup>w</sup> i <i>two</i>
CoS *k'əyuya <i>twins</i> (< *k'ə/iy)	(EC *q'Hwā <i>two</i> ; *q'Hw->) *k'	AvA *ki- / Lk ki / Khn ku <i>two</i>

Table 3 shows EC root for *sour*, *raw* which contains intervoc. \*k<sup>w</sup>; this latter is preserved as a a velar in the Group II languages (CoS \*k<sup>w</sup>; NWk x<sup>w</sup>; EC:Drg \*k<sup>w</sup>), but changed to \*q(') in the Group I languages (IS \*q'/\*q; EC:Ts \*q'/\*q).

3. IS \*q[/'q]:CoS \*k<sup>w</sup>/NWk x<sup>w</sup> EC \*-q'w- < \*-k'w Ts \*-q/ḡ- : Drg \* -k<sup>w</sup>-

I: IS *c'aq[/'q] <i>sour</i> 162	I. (*-k'w- >) *- q'w-	I. Ts *c[ḡ]q/ḡ- <i>sour</i>
II: CoS:Ld c'ik <sup>w</sup> <i>raw</i> /NWk cix <sup>w</sup> -	II. EC *c'āk'wV <i>sour</i> , <i>raw</i> 356	II. Drg *cḡk <sup>w</sup> - <i>sour</i>

The following sets (HEAVY, BIG, SIT) show CeS (<CoS) and NWk languages (group II) which contain k<sup>w</sup> (/k<sup>w</sup>) and EC languages AvA, Drg, Lk (group II) containing \*k<sup>w</sup>, (\*)k. Accordingly, N(E)C languages Nkh, Ts, Lzg, WC (group I with preserved uvulars) show \*q<sup>w</sup>, \*q.

4. Ces:Ld k(')<sup>w</sup>, NWk k<sup>w</sup> N(E)C \*q<sup>w</sup> Ts/Lzg/WC \*q<sup>w</sup>; AvA/Drg \*k<sup>w</sup>, etc.

I. a) HEAVY: II. CeS:Ld ha?k <sup>w</sup>	NC *fičq'wV <i>h</i> . 513	I.Ts *-čq <sup>w</sup> -/Lzg *ḡiḡ <sup>w</sup> ä- /WC *-q <sup>w</sup> a II. AvA *hočV / Drg *=eč <sup>w</sup> <i>h</i> .
I. b) BIG II. CeS:Ld hik <sup>w</sup> (deglott. ?)	NC *Hnäq'wV <i>b</i> , <i>old</i> 594 (> I. *Hänq'wV) (> II. *Hänk'wV)	I. Nkh *qāni /Ts *=uqV <i>b</i> , <i>many</i> / Lzg *nač <sup>w</sup> V- <i>m</i> . / WC *q <sup>w</sup> V II. Av *-Hiḡu- <AvA *hinka- <i>b</i> . > Kar ḡeka-m
I. c) SIT II. NWk:Kw k <sup>w</sup> ā? <i>sit down</i> k <sup>w</sup> ā-ḡa <i>be sitting</i>	EC *=iq'wV <i>sit</i> , <i>be</i> 647	I.Nkh *χ- /Ts *-iḡ <sup>w</sup> - <i>be</i> /Lz *ḡiḡ <sup>w</sup> ä- II. AvA *=iḡ <sup>w</sup> <i>be</i> , <i>sit</i> /Lk *=i=ḡa

The above division of NC languages in two groups is relatively recent; NCED contains the following passage about this regrouping:

In the reflexes of the labialized uvular affricates in Avar-Andian, Lak, Dargwa and Khinalug we observe a very characteristic parallel development: the uvular affricates \*q<sup>w</sup>, \*\_q<sup>w</sup>, \*\_q<sup>w</sup> in non-initial positions shift to the velar series...

The development of uvular labialized \*q<sup>w</sup>, \*q<sup>w</sup> and \*q<sup>w</sup> into velars in medial postvocalic position has not at all afflicted Nakh, Tsezian, Lezgian and

West-Caucasian languages. This development must be dated in a rather late period (after the break of the Avar-Andi-Tsezian unity); this is an important areal phonetic isogloss which obviously can provide us with information about the geographic location of separate families of the East-Caucasian languages in the period about the 2<sup>nd</sup>-3<sup>rd</sup> millenium B.C." [NCED 59-60; similar changes appeared in the NC root \*tq'Hwǎ *two* > EC \*q'Hwǎ, cf. NCED 924; see below].

If the regrouping of NC languages into I. Nakh-Tsez-Lezg-WC vs II. AvA-Lak-Darg-Khin is indeed reflected by Sa languages (group I. IS vs group II. CoS/CeS/Wk) then Sa(-Wk) languages may be considered as a part of North-Caucasians which migrated to N. America relatively late.

#### LITERATURE

- A. Kuipers's *Salish Etymological Dictionary* [=SED], Missoula, MT, 2002  
S. Nikolaev's and S.Starostin's *A North Caucasian Etymological Dictionary* [=NCED], Asterisk, Moscow, 1994



**AFRASIAN AND NOSTRATIC:  
ADDENDA TO THE NOSTRATIC ROOT LIST OF  
A. B. DOLGOPOLSKY (1991)<sup>82</sup>**

**Gábor Takács**

**I. Introduction**

The present material is intended to contribute to Nostratic reconstructions with new Egyptian and Afrasian reflexes not yet treated as such on the one hand, and to make some modifications in the treatment of Egyptian or Afrasian material, on the other hand.

The basic corpus of the Nostratic comparisons considered throughout this paper is represented by the works by V. M. Illič-Svityč (1965, 1971, 1976, 1984) and A. B. Dolgopolsky (his "Nostratic Dictionary" is forthcoming<sup>83</sup>). My proposals are arranged according to the order of the comprehensive list of Nostratic roots by A. Dolgopolsky from 1991, which contains more than 1800 items. Each number before the items in the present material refers to this work.

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<sup>82</sup> This paper has a long story. It was originally written in June-July 1995 (and presented at the 11<sup>th</sup> Annual Conference of the Language Origins Society, LOS, Pécs, Hungary, 27 July – 1 August 1995, convened by Dr. Irén Hegedűs), but my paper has had so far to remain unpublished. It was made up-to-date in January 1999 in Székesfehérvár (Hungary), and later in Frankfurt a/M in December 1999. A third slight review has been accomplished in September 2002 (Székesfehérvár, Hungary). Some seven years ago (end of 1997 or early 1998), this work has been submitted for a volume edited by V. Shevoroshkin, which has, however, so far never appeared. With the kind permission of Prof. Shevoroshkin, I am glad to be able to comply with the kind invitation of Dr. Irén Hegedűs to contribute to her volume devoted to the centenary (1903-2003) of Nostratic studies. Throughout the nine year period (1995-2004), when this paper was time-to-time updated, I have received many-sided support from diverse institution and persons. I am deeply indebted to Prof. H. Jungraithmayr (Frankfurt) for his constant support and invaluable help. It is my pleasure to acknowledge here the grant facilitating my research on the phonological and lexical comparison of Chadic and Egyptian/Afrasian at the Institut für Afrikanische Sprachwissenschaften in Frankfurt a/M in 1999-2000 and 2002, which was made possible by the Alexander von Humboldt Foundation (Bonn).

<sup>83</sup> Although Aharon Dolgopolsky has circulated a few more recent versions of his Nst. list (e.g. from 1992) to (with no radical changes), the present collection of etymologies was originally based on his 1991 list, which was the only version available for me in 1995 during writing my paper. Later, however, I had the opportunity also to comment on Dolgopolsky's new Nst. comparisons. First of all, during my research visit with Aharon Dolgopolsky in Haifa in September 1998, I compiled a long handwritten list of *addenda et corrigenda* to the manuscript of the "Nostratic Dictionary", which I gave to Aharon, so some of my comments will be hopefully incorporated in his dictionary. Then, my review on Dolgopolsky's monograph "The Nostratic Macrofamily and Linguistic Paleontology" (Cambridge, 1998) has been published in *Lingua Posnaniensis* (1999).

## II. Some peculiarities of Egyptian, Afrasian, and Nostratic historical phonology

One has to call the attention to some special features of the Eg. historical phonology. Eg. inherited a greatly simplified phonological system: several PAA (PNst.) sibilant affricates, uvulars (postvelars) and "laryngeals" had merged into one common Eg. reflex. Most of the glottalized phonemes were lost or merged. Henceforth, Old Egyptian possessed a radically simplified consonant system.

An important rule of Eg. historical phonology is the "aleph-problem". On the basis of the analysis of hundreds of Eg. etymologies, I am convinced that Eg. 3 was a merger of at least three different consonants. First of all, it reflects an earlier \*r and \*l (as is usually accepted). But, in addition, there are doubtless etymologies showing the correspondence of OEg. 3 to PAA \*ʔ. The same pertains to Eg. j: it may be the reflection of PAA \*ʔ and \*y, but it may also go back to PAA \*r and \*l due to combinatoric conditions (possibly before \*i and \*u).

The fine distinction of PAA/PNst. sibilant affricates was mostly lost in OEg. Thus, OEg. s is a merging point of PAA \*c, \*s, \*č, \*š, while OEg. š < PAA \*č & \*š. All PAA glottalized affricates (\*č, \*č̣, \*č̣̣) merged into OEg. ḏ. The PAA voiced sibilant affricates (\*ʒ and \*ʒ̣) yielded a common OEg. z.

Due to all these regularities, the number of consonant phonemes in PEg. (25 if we add \*l) corresponds well to that in Bed. (19), PECu. (Sasse 1979: 23), PAgaw (Apl. 1984: 26), PSem. (Moscatti etc. 1964: 29; Bomhard 1988: 30), PBrb. (Mlt. 1991, 242-246: about 28 including uncertain ones). Thus, from this viewpoint, Eg. seems to be at the same level within Afrasian as PSem., PBed., PECu., PAgaw, PBrb., or probably the WCh./CCh./ECh. subbranches and groups, resp. A deeper time level seems to be represented by Proto-Cushitic (Dlg. 1973: 38; Ehret 1987: 35 phonemes), which preserved much more of the rich PAA consonant system (SISAJa: 45; DjK. 1984, 4: 40; DjK. etc. 1987; 1993: 44; Majzel'-Mlt. 1983: 35 PAA phonemes, in the latter work with omissions). This can be explained by a much earlier split of the Proto-Cushitic unity from the Common Afrasian unity than other branches. It is premature to discuss the problem of Proto-Chadic here.

Judging by the evidence of consonantism, the PAA level seems fairly close to the PNst. system (number of consonant phonemes acc. to IS 1965: 40; 1971, 147-150: 42; Dlg. 1991: at least 47). Note that some representatives of the recent "Moscow school" (S. A. Starostin, A. Ju. Militarev, V. É. Orel) maintain that Proto-Afrasian should be projected at an equal time depth as Proto-Nostratic. Opposing this view, A. Dolgopolsky (e.g. 1994 MS) maintains the traditional conception that PAA is one of the daughter language branches of Nst., parallel with PIE, PKrt., etc. This problem cannot be a subject for the present investigation.

## III. Belova's law

A further peculiarity of the Eg. lexical stock, which is confirmed by the present material too (providing new cases), is the "law of Belova" (Djk. 1988, 55, note 10; Belova 1987, 281-282; 1991, 85-91; 1993, 51-55), according to which Eg. *primae* w- and j- are often not prefixal (as it is usually maintained in Egyptology), but represent a reflection of the

internal root vocalism of the original PAA (and consequently PNst.) \*CVC- root. Thus AA \*C<sub>1</sub>uC<sub>2</sub>- > Eg. wC<sub>1</sub>C<sub>2</sub>; while AA \*C<sub>1</sub>iC<sub>2</sub>- > Eg. jC<sub>1</sub>C<sub>2</sub>. The development of PAA \*-a- is not yet clear. Perhaps AA \*C<sub>1</sub>aC<sub>2</sub>- > Eg. jC<sub>1</sub>C<sub>2</sub> (and sometimes also 3C<sub>1</sub>C<sub>2</sub>)?

#### IV. Addenda et corrigenda

The numbering of the items under review follows that of Dolgopolsky's list of Nostratic roots (1991). After the Nst. reconstruction by Dolgopolsky follows in brackets the abbreviation of those daughter language families and branches where reflexes of the underlying PNst. root have been identified by Dolgopolsky.

5. Nst. \*ʔe "not" (Sem., ?ECu.; U, A, ?D) = \*ʔe "negative particle" [IS 1971, 264, #129]. Add perhaps Eg. jwɛ "welcher nicht ... (ist)" (OK, Wb I 45, 7-11), jw.tj "id." (OK, Wb I 46) → OCpt. ait-, (SAA<sub>2</sub>BF) at- "Negativpräfix: ohne, nicht habend, -los" (KHW 13), explained from Eg. \*3īti [Vcl. 1958, 392; 1983, 17] ||| ECh.: Mokilko ye "not" | Tumak éy "not" (ECh.: Newman 1977, 30).

Lit.: cp. still Ember 1913, 119, #88 (Eg.-Sem.).

NB: D'jakonov (1970 passim; 1988, 58) postulates AA \*y ~ \*w to have originally been allophones, cp. the AA masc. gender marker \*-Vy (Agaw), \*-Vw (Sem., Berb., Eg., Bed., Om.), see Dj. 1965, 54, note 1; 1986, 47-48; 1988, 58; Dj. Prh. 1979, 83). That is why it is possible to reconstruct an allomorph to the AA negative morpheme \*yV as \*wa attested in WCh. and ECh. \*wa "not" [Newman 1977, 30], related to Eg. w "enklitische Negation des Verbots: not" (OK, Wb I 243, 8; FD 52; Gardiner 1957, #352.A) and ECu.: Oromo wā-u "not at all" [Sasse 1979, 42, who derives it from PECu. \*wāy- "to fail, be unable"].

10. Nst. \*ʔ[a]kE "to drive (away, cattle), steal, take away" (Sem.; IE). Add perhaps Eg. jk "jem. ergreifen (?)" (PT, Wb I 139, 1)?

12. Nst. \*ʔo[k]VLV "to eat" (Sem.; A). Probably Eg. k3.w [< \*kl-w?] "Nahrung, Speise" (OK, Wb V 91) also belongs here.

Lit.: the comparison of Eg. k3.w to Sem. \*ʔkl "to eat", to the best of my knowledge, was first suggested by C. T. Hodge (1990, 647, #19C).

19. Nst. \*ʔ[?]äl'a "food" (Sem., ?Brb., Cu.; IE, A, ?D). Add perhaps Eg. jr "essen" (GR, Wb I 114, 8-9).

NB: The Afrasian data used by IS (1971, #123: Sem., ECu., Brb.) for reconstructing AA \*ʔ-l "fat, greasy food" belong in fact to two distinct cognate groups:

1. Sem.: Akk. alīlu "gewaltig" [AHW 36] || Hbr. "ʔēl "Stärke, Gewalt" [GB 36] are cognate with Eg. 3.t [< \*l.t] "Kraft" (OK, Wb I 2, 3).

2. SBrb.: Ahaggar āllun (coll.) "grain, corn" [IS, not in Fcd. 1951-2]: cf. PBrb. \*ill "millet" [Mlt.] ||| LECu.: Saho iló ~ ilaw ~ illaw ~ illaû (coll.) "Korn, Getreide, spez. die Durra" [Rn. 1890, 26, 30], Afar iló ~ iláû ~ ilô (coll.) "Korn, Getreide, spez. Durra" [Rn. 1886, 807-8] ||| WCh.: Bole-Tangale \*yala "grain, corn" [Stl. 1987, 248]. Cp. still PNUbian \*ille "wheat" [Mlt.]. See also Mlt. 1984, 21 (Brb.-ECu.-Nub.).

**19.a Nst.** \*ʔuh[V]l'V “hut → tent” (Sem., Cu.; Elamo-D). Add perhaps Eg. jh.w [if < \*jh3.w < \*ʔhl-w] “Feldlager” (XVIII., Wb I 118, 5) = “camp” (FD 28).

NB: Of interest may be still OEg. h “Hof, Halle” (PT, Wb II 470, 1) = “courtyard” (FD 156), h3j.t “Halle, Vorhalle” (OK, Wb II 476, 4-11) = “portal” (FD 156).

Lit.: see also Blažek 1994 MS Elam, 10, #50 (Sem.-Eg.-ECu.).

**22. Nst.** \*ʔä/emPV “hyena, dog” (ECu.; U). Add Eg. jnp.w “the dog or jackal god Anubis” (OK, Wb I 96, 7) → OCpt. An(o)up. Cf. Eg. jnpw.t “Göttin in Hundgestalt in Kynopolis” (GR, Wb I 96, 8).

NB: Gardiner (1927, 451, E15): the Eg. sign jnp “represents a recumbent dog rather than a jackal”.

**31. Nst.** \*ʔanga “to open (esp. mouth), opening (esp. mouth), entrance” (Sem.; IE, U, A, D) = Nst. \*Hanga (U, A, D) [IS 1971, #105]. Add Eg. ngj “öffnen (Tore, Auge), zer-, aufbrechen” (MK, Wb II 348, 6-12) = “to break up, open” (FD 141).

NB: E. Zyhlarz (1934, 119) compared Eg. ngj with SBrb.: Ahaggar e-nḡi “ruisseler (d’un liquide)” [Fcd. 1951-2, 1330] = “strömen (von Wolkenbruch)” [Zhl.].

**66. Nst.** \*ʔEga “fat (n.)” (Sem.; A). Add Eg. ʔd [< \*ʔg] “Fett” (OK, Wb I 239, 8-16), ʔd.t “Fettstücke (?)” (XVIII., Wb I 239, 17), ʔd.t “ein Öl” (OK, Wb I 240, 4) ||| CCu.: (?) Buduma maigé [if derived by a prefix ma-] “Fett” [Lks. 1939, 118] || ECh.: Mokilko ʔégéy (coll.) “huile” [Jng. 1990, 95].

Lit.: OS 1989, 135; 1992, 190; Orel 1994, 8 (Eg.-Ch.).

**69.a Nst.** \*ʔokV “to listen” (Cu.; D). Fair interesting are Eg. ʔd [< \*ʔg] “hören” (GR, Wb I 238, 15), cf. ʔd “wahrnehmen, erkennen” (MK, Wb I 238, 4) ||| Agaw: Kunfāl egʷaw [-w < \*-z?] “to hear” [Birru-Adal 1971, 102] || SCu.: (?) Dahalo ʔágaʒʒo [irreg. ʔ- < \*ʔ-] “ear” [EEN 1989, 20] ||| ECh.: (?) Mubi ʒīgè [Mubi ʒ- < \*yi- possible] “hören” [Lks. 1937, 183] = ʒégéw “to hear” [Jng.].

NB1: While Dolgopolsky suggested Nst. \*-k-, the additional AA data quoted here support AA \*-g-.

NB2: The position of the Mubi parallel is uncertain, since ʒi- < \*di- seems plausible too, cf. PCh. \*d-K “to hear” [GT] (Ch.: JI 1994 II, 184-5).

**84. Nst.** \*ʔir[i] “male (young) ungulate” (Sem.; K, IE, D). Add Eg. ʔr “Ziege” (Med., Wb I 208, 10) ||| WCh. \*ʔarwa “domesticated cattle” [Stl. 1987, 228] ||| ECu.: Somali eri, Rendille ari “sheep, goat” || SCu. \*Hār- “goat” [GT]: Dahalo ěri “shep/goat” | WRift \*āra “goat” (Cu.: Ehret 1974, 68, 73).

**99.a Nst.** \*baḥV “1. abundant, 2. many, rich” (Sem.; K, A, D) has been reconstructed by Dolgopolsky separately from his Nst. \*begV “much” (Sem., Eg.; K, D) [Dlg. 1991 MS, #99] = Nst. \*bVgV “достаточно, чрезмерно” (Sem., Eg.; K) [IS 1971, #28]. In my view, Eg. bʕḥ “Wasserfülle, Überschwemmung” fits better in Nst. \*baḥV, which,



besides, is reflected also in LECu.: PSam \*būh “to be full”, \*būh-ì “to fill” [Heine 1978, 54-55] || SCu.: (?) Maa -bóha “to rush out (of water)” [Ehret] (Sam-SCu.: Ehret 1980, 321).

**103. Nst. \*bok[u]** “to flee, run away” (Brb., Cu., ?Sem.; IE, U, ?A) = Nst. \*b[o]kV “to run” [IS 1965, 330] = Nst. \*bok[a] “to run away” [IS 1971, #15]. The regular and correct Eg. reflex of this PNst. root is not LEg.bqn “schreiten (vom Windgott)” (GR, Wb I 480, 2) as mistakenly suggested by Blažek (1989, 202), but rather Eg. bṯ [reg. -ṯ < \*-k] “laufen, herbeieilen, durchlaufen” (PT, Wb I 485, 6-8).

NB: Blažek (l.c.) added to Nst. \*b[o]kV “to run” Ar., Eg., ECU. parallels with -q-, which can be accepted only as reflexes of a PNst. variant root \*bok[u]. Leslau (1988, 143) has already expressed his doubt on the etymological connection of “to run away” ~ “to be afraid” in ECU. \*bak-, which was suggested by Sasse (1982, 32). ECU. \*bak- “to be afraid” [Dlg. 1966, 50; 1973, 265] corresponds better with Eg. bq “to be hostile” (XVIII., FD 85) || SCu. \*bōk- “to avoid, keep away, have an aversion to” [Ehret 1980, 138]: Ma’a bug-ú “fear, doubt”, bug-é “coward”, -bugéno “to fear” [Ehret 1980, 138] || WCh.: PAngas-Sura \*bak [metathesis of glottalization] “to despise” [Stl. 1977, 153; 1987, 240] || ECh.: Bidiya bàak “avoir peur”, bàakò “peur” [AJ 1989, 61], EDangla bàakē “craindre, avoir peur”, bàakāw “peur, crainte, frousse, effroi, frayeur, angoisse, affolement, trac” [Dbr.-Mnt. 1973, 57] = bàakē “fürchten, Angst haben” [Ebs. 1979, 130; 1987, 83] | Mubi ḡigáagà “to fear” [Lks. 1937, 180] < AA \*bVḵ- “плохо обращаться, бояться” [SISAJa I, #81]. See also IS 1966, 28.

**106.a Nst. \*big/kU** “to shine, be bright” (?Ch.; K, IE). Add Sem. \*bwg [DRS]: Ar. bwg: bāga “fulgurer (éclair)”, tabawwāga “briller intensément” || Tna. bāg ~ bog ~ bāgbāg ~ bogbog belā, Amh. bog alā ~ bogbog alā “briller, fulgurer” (Sem.: DRS 50) || Eg. wbg [Belova’s law: < \*bug-] “leuchten, scheinen” (NK, Wb I 296, 14).

**107. Nst. \*baḲa** “to look” (Sem., Cu., Om., Ch.; A) = [IS 1965, 366; 1966, 347; 1971, #3] = [Dlg. 1967, 281]. Add Eg. bq “jem. erblicken” (LP, Wb I 426, 1). Lit.: Wölfel 1955, 42 (Eg.-NOM.); HCVA 2, #90; HSED #201 (Eg.-AA).

**114. Nst. \*baHLi** “wound, pain” (?Angas; IE, A) = Nst. \*baIv “to be ill” (IE, A) [IS 1965, 331; 1971, #1]. I was unable to find an Angas reflex of this Nst. root. Add perhaps WCh.: PGoemay \*bāḷ “scar” [GT]: Goemay báál “the scar of a wound” [Srl. 1937, 8] = bool “scar” [Hlw. 2000 MS, 2].

NB: Or any connection to Eg. wbnw [Blv.: < \*bul?] “Wunde” (Med., Wb I 294, 15)?

**125. Nst. \*bil’V** “to cry” (K, IE, D) = (id.) [IS 1971, #14]. Add MSA: Sq. blbl “mugir” [Lsl. 1938, 87, cf. DRS 65] || Eg. bjbj [< \*blbl] “jauchzen” (BD, Wb I 442, 9) = “acclamation” (FD 81) || Brb. \*b-l “to weep” [GT]: EBrb.: Audjila e-vél ~ a-vél, intens. vella “piangere” [Prd. 1960, 171] || SBrb.: Hgr. hâll (intens.) “pleurer bruyamment” [Fcd. 1951-2, 579; Prs. 1969, #487] || HECu.: Sidamo bil- “piangere” [Crl. 1938 II, 194] = bil- ~ wil- ~ wi’l- ~ wil’- “piangere” [Mrn. 1940, 208] || WCh.: Bole mbele “to cry” [Stl.] ||

CCh.: Mada bòblò “cris de deuil (pour une femme), de douleur, cris d’alerte” [Brt.-Brn. 2000, 68] || ECh.: Lele bilà ~ bùlà “bruit, cri” [WP 1982, 5, 8]. From AA \*b-l “to cry, weep” [GT].

NB: For the semantic shift in Eg. bjbj see Eg. hn.w [< \*hl-w] “Jubel, Jauchzen” (PT, Wb II 493) || Bed. hell “to shout” [Leslau 1988, 96] || Agaw: Bilin ilil “cris de joie” [Cohen 1947, #91].

126. Nst. \*boŋ[g]ä “thick, to swell” (IE, U, ?A, D) = [IS 1971, #17]. Any connection to Eg. bng3 (group-writing for \*bng) “Überfluss haben (an Speisen)” (NE, Wb I 464, 5) = “avoir en abondance” (AL 79.0907: also in Edfu IV 65, 5) = “to abound (?)” (NE, DLE I 157) = “Überfluß haben (an Speisen)” (NE, GHWb 255) || WCh. \*v-n-g “to fill” [GT]: Zakshi vñj “to fill” [Smz. 1978, 35, #62] | Ngizim vñgú “to spill, pour out liquid” [Schuh 1981, 166] || CCh.: (?) Tera ɓoŋ tera “full moon” (cf. tera “moon”) [Nwm. 1964, 40, #155]?

127.a Nst. \*bo[ŋm]E “bosom, breast (front of the body)” (Sem.; U, D). Add perhaps Eg. bn.tj dual “die beiden Brustwarzen, weibliche Brüste” (Med., Wb I 457, 11-13) = bn.tj “pair of breasts”, cf. bn.t.t “deep-bosomed (Westcar)” (FD 83) = bn.tj “1. Brustwarzen (Mann, Frau), 2. weibliche Brüste, 3. \*Euter” (GHWb 252) || CCh.: Nzangi bāndóve “poitrine” [Mch. 1950, 37] || ECh.: Miltu bàŋ [-ŋ < \*-nm reg.] “sein” [Jng. in JI 1993 MS, 13, #235], for which G. Takács (1998, 160, #5) found firm African areal parallels in PBenue-Congo \*li-bani, \*a-bani “breast” [Gerhardt 1973, 90], PJukunoid \*byan “breast” [Smz. 1981, 10, #190], Songhay bina [Mkr. 1966, 686] = bìnè “heart” [Zima 1990, 264], PBantu \*-béénè “breast” [Gtr. 1971, 119].

NB: V. Blažek (1994 MS Bed., 3; 1999, 58, #2), followed by G. Takács (1998, 160, #5), identified Eg. bn.tj with CCh.: PKotoko \*fōne “breast” [GT]: Gulfei fene “poitrine” [Mch.], Makeri fné [AF] = finange [Roeder] = fōnnañe [Lks.: -ê-] “Brust” [Lks. 1937, 147-149] = fōng “poitrine” [Mch.] (Kotoko: Lbf. 1942, 169) | (?) Masa vun díga [v- < \*f-?] “poitrine” [Mch. 1950, 37]. Phonologically dubious (PKtk. \*f- hardly derives from PCh. \*b-). Areal parallel: PAdamawa \*p<sup>w</sup>aN-t/m- “1. sein, 2. lait” [Boyd 1974, 65, #18].

165. Nst. \*beg/γ[V]ǂV “(young of) antelope/deer” (Cu., U). Add perhaps Eg. bñz “Kalb” (OK, Wb I 469, 4-10) = “calf” (FD 84) = “1. Kalb, 2. Jungtier (von verschiedenen Huftieren)” (GHWb 258) || Sem.: Ar. baḥzaḡ- “1. veau, 3. petit de bête fauve” [BK I 89] = “~ waladu l-baqrati (as defined by al-Jawharī)” [Ember] = “petit d’onyx, de bouquetin” [DRS 56].

Lit. for the Eg.-Ar. comparison: Reinisch 1873, 292, fn. 1; Ember 1913, 110; 1914, 303, fn. 1; 1930, #7.a.8, #14.a.3; Alb. 1918, 231; Clc. 1936, #594.a; Chn. 1947, #387; Vcl. 1934, 66; 1958, 372; 1983, 34.

NB: The Ar. parallel is extended by a complement \*-g. The AA background of this Eg.-Ar. root is obscure. A relationship of LECu.: Somali báḥsi “Jüngling dem noch ein wenig abgeht von der Vollreife” [Rn. 1902, 78] || WCh.: Hausa (dialect of Zaria) bòòḡóó “stunted goat” [Abr. 1962, 109] is phonologically doubtful, but not impossible (Somali s < \*s ≠ \*z, while in Hausa one would expect ɓ- < \*b-H- and -z-).

**188. Nst. \*ć[ü]RV** “small, little” (K, ?IE, U, A). Add Sem.: Akk. šerru “(kleines) Kind” [AHW 1217] || Ug. šrr “little, small (?)” [WUS #2692] || Eg. šrr “klein (sein)” (OK, Wb IV 524-526) || Om. \*šEr- “thin” [Bnd. 1994, 1157, #83].

Lit.: Ember 1912, 90; Albright 1927, #64; Cohen 1947, #293.

NB: The position of WCh.: perhaps Hausa sáuràyí “young man (between 15-25)” [Abr. 1962, 791] is dubious. In principle, it might belong here (as suggested by M. Cohen l.c.) unless it derives from \*samray-.

**193.a Nst. \*ć[ä]r’V** “dirt, dung, rubbish” (Sem., ?Cu.; ?K, IE, U, D). Cp. Eg. š3.w [provided < \*šr-w] “Kot des Menschen” (Med., Wb IV 402, 1).

**194. Nst. \*c/ćah/hRV** “to pronounce magical formulae, incantations” (Sem., Cu.; U). Cf. perhaps Eg. šhr “Gedanke, Plan, Rat” (OK, Wb IV 258-260).

Lit.: cf. Leslau 1962, 46, #10 (Eg.-Sem.).

**221. Nst. \*ćaq[a]l’V** or **\*ćaqV** “elbow” (?Sem., Cu.; K, IE, A) = (ECu.; K, A) [Blž. 1991, 361, #3]. This Nst./AA root (\*ć-k-l [GT]) is perhaps reflected in Eg. \*sqr, which is the phonetic value of the hieroglyph representing originally probably an elbow (Gardiner 1927, 524, Aa7: “it looks like an arm” on an inscription from the 6<sup>th</sup> Dyn.) OEg. sqr might have resulted from \*dq̄r < AA \*[ć]-k-l due to the dissimilation by glottalization, which was regular in OEg. roots with the sequence \*dq̄ (incompatible in native OEg. words).

**224.a Nst. \*ć/ćorV** “narrow” (Sem.; A, D). Add probably Eg. d3r [if < \*ć?r] “Bedürfnis” (MK, Wb V 524-525) = “need” (FD 319).

**227. Nst. \*ćiryV** “to chisel, give a form (to an object)” (Sem.; K, U, A, D). Add Eg. md3.t “chisel, Meißel” (NK, Wb II 188, 5) || WCh.: perhaps Hausa cáràà [ts- < \*ć- poss.] “to lance, cut” [Brg. 1934, 1029, not found in Abr. 1962].

Lit.: Hodge 1966, 45 (Hausa-Eg.).

NB: Eg. md3.t might be a nomen instrumenti formed by an m- prefix.

**238. Nst. \*ćV[y]k[a]** “to prick, gouge” (K, IE, A, D) = “колоть” (A, D) [IS 1965, 344]. Add WCh.: Hausa čakáá “1. to stab, 2. eat sg. by impaling on sticks” [Abr. 1962, 130].

NB: Cf. also WCh.: Angas čak “to shoot” [Flk. 1915, 155]. Any connection to Eg. sk “Lanze” (MK, Wb IV 315, 6-7) || CCh.: Ga’anda šukta, Gabin sùkte “spear” (CCh.: Krf. 1981, #230)? For Eg.-CCh. see OS 1989, 134; 1992, 176; 1992, 192.

**243. Nst. \*će[l’]V** “1. to pull off, away, 2. take away, out, rob” (Sem.; IE, D). Add perhaps Eg. snj “jem. von (m’) Bösem erlösen” (PT, Wb IV 156, 5), snw [< \*slw?] “sich trennen von jem. (r)” (PT, Wb IV 157, 3).

**245. Nst. \*čal'agV** "snow" (Sem., ?Brb.; K, U, A). Add perhaps HECu. \*sirg- "(to become) cool, cold", \*sirga [< \*silg-?] "cold (of food)" [Hds. 1989, 421].

**247. Nst. \*čoma** "aurochs, wild ox" (K, D). Add Eg. sm(3) "Wildstier" (PT, Wb IV 124, 1-7)?

**258. Nst. \*čirV-kV** "1. filth (pus, dung), 2. to rot" (Sem.; K, IE, A, ?D) = Nst. \*čiru "гной, жижá" (Sem.; IE, A) [IS 1971, #50]. Add Eg. sr "Schmutz" (GR, Wb IV 191, 14) ||| Bed. sār "contents of stomach of slaughtered animal" [Rpr. 1928, 234] || HECu.: Burji ser-a ~ sarr-a [unless < ECu. \*sāl-] "excrements of horned cattle", sīr- "to have diarrhoea" [Sasse 1982, 164-5; Lsl. 1988, 199] (Cu.: Blažek 1994 MS Bed., 32) ||| ECh.: Mokilko siirí "excrement" [Jng. 1990, 174].  
Lit.: HSED #486 (Eg.-Mokilko-?Burji).

**259. Nst. \*čarV** "to spread, disperse" (Sem.; IE, D). This Nst. root has been preserved also in Eg. sr "ausbreiten" (GR, Wb IV 191, 15) ||| NAgaw: Bilin šīr- "sich erstrecken, lang, hoch, fern sein, sich entfernen", šīr-d- "ausdehnen, lang, hoch machen" [Rn. 1887, 329], Qwara čēr- "to be far away" [Rn.] (NAgaw: Dlg. 1973, 126).

NB1: The reconstruction of the initial sibilant in the underlying PAA root is debatable (PAA \*č- or \*š-?), cf. SCu.: Iraqw & Alagwa šēr- "long" (WRift: Ehret) ||| ECh. \*s<sup>w</sup>-r "long" [GT]: Ndam swar | Kabalai sùrrgā | Somray sērē | Mokilko sò?ùrú (Ch.-SCu.: Stl. 1991 MS, 4; 1995, 60). Are we dealing with two distinct var. roots?

NB2: Note that Eg. sr can alternatively traced back also to Nst. \*čalHa "wide" [IS 1971, #58], cf. also Dlg. 1991 MS, #1447 (discussed below).

**271. Nst. \*čAdV** "to strike, beat" (K, D) = \*čadV (id.) [IS 1971, #51]. Add perhaps Eg. dd [if < \*čVd] "(Feinde mit der Keule) erschlagen" (GR, Wb V 631, 2).

**272. Nst. \*[č]U?V** "to shine" (Sem.; K). The Sem. data speak for Nst./AA \*č-. Add perhaps SCu.: PRift \*čāča?- [\*č- < \*č-] "afternoon" [Ehret 1980, 259] ||| (?) Eg. d.t [< \*č-t?] "als Bez. für die Pupille des Sonnenauges, als Ausdruck für Morgens" (GR, Wb V 506, 7-12).

Lit.: for Sem.-SCu. see already Dlg. 1987, 207, #89.

**276. Nst. \*č[o]/I?V** "1. shadow, shade, 2. dark" (Sem., ?Cu., Ch.; K, U). Add Eg. d3.w [if < \*čl-w] "night" (MK, Wb V 520, 1; FD 319) ||| NBrb.: Semlal i-dili "black" [?/Mlt.] ||| SBrb.: perhaps Ahaggar e-dlu "être vert et pousser vigoureusement" [Fcd. 1951-2, 271] ||| NOm. \*čill- "1. black, 2. green" [GT] ||| SOm.: Ari-Jinka čalemi "black, green" [Flm.] = čel-mi "black" [Bnd.] (Om.: Dlg. 1973, 199).

Lit: Blažek 1992, 27, #22; 1994, 102; Dlg. 1973, 199; Dlg.-Dybo-Zaliznjak 1973, 89; Hodge 1981, 405, 409; 1990, 644; Mlt. 1991, 253, 263; Mlt.-Stl. 1990, 56-57; Djik. etc. 1986, 38.

**284.a Nst.** \*čepV “to immerse (tr.)” (Sem., Cu.; U, A). Add Eg. dfj [irreg. < \*čpy?] “einsinken, versinken” (Med., Wb V 569, 4).

**287. Nst.** \*čarV “to cut” (Sem.; K, ?IE, D) = \*čVrV (AA, K) [IS 1965, 353] = \*čArV “to cut” (Sem., Cpt., ECu.) [IS 1971, #53]. Add perhaps Eg. dr [< \*čr?] “(das Opfertier) durchstossen (mit dem Speer)” (GR, Wb V 595, 10).

**289. Nst.** \*čurV “to see, look” (Sem., Brb.; K, D). Add Eg. d3r [if < \*čʔr] (eye determinative), in: nw n d3r “sehen, blicken” (GR, Wb V 525, 12-13).

NB: Orel & Stolbova (1988, 80, #38) identified the Ar. root with CCh.: WMargi žəwré [if ž- < \*č-] “to see” [Krf. 1981, #348], which is phonologically dubious.

**291. Nst.** \*č[u]ri “to seize, take” (Sem.; K, D). Add Eg. ndrj (refl. n- prefix?) [if -d- < \*č-] “fassen, packen” (OK, Wb II 382-383).

NB: W. Vycichl (1933, 179) reconstructed PEg. \*dr “packen, greifen” from OEg. mḍr “to reach” (*hapax*, PT Spruch 311) and ndrj.

**301. Nst.** \*če[p]V “heel, foot, part of leg” (Sem., ?Cu.; U, ?A). Add LEg. šp (hoof determinative), perhaps signifying “hoof (?)” in the expression šp nb.tj “šp of the Two Ladies (Neith)” (GR, Wb IV 444, 11).

Lit.: for further AA derivatives of the Nst. root see also SISAJa III, 38, #72.

NB: Note that Neith was identified with the primaeval cow goddess Mḥ.t-wr.t already in the Pyramid Texts.

**IS 1965, 371:** Nst. \*čVγV [= \*čVγV] “to catch” (Sem. \*čʔč “to catch, handful, fist”; K). Cf. perhaps Eg. dʕ “(Fische) fangen” (MK, Wb V 534, 11), provided Eg. dʕ goes back to AA \*č-γ (possible). Other possibilities (e.g. AA \*g-č) should, however, be also considered.

**327. Nst.** \*da “locative particle” (Brb., Cu.; K, IE, U, A, D) = (id.) [IS 1971, #59]. Add Eg. dj “hier, da, dort, hierher” (NE, Wb V 420, 5-7).

Lit.: cf. Vycichl 1933, 172-3 (Eg., Brb. & Sem. \*d “Lokalelement”), Hintze 1951, 83, #347 (id.).

**373.a Nst.** \*guʕ/γE “to feel” (Cu.; IE, A). Add Eg. wḍʕ [< \*guʕ] “offenbar sein” (LP, Wb I 406, 15).

NB: According to “Belova’s law”, Eg. wḍʕ is regular reflex of AA \*guʕ-.

**377. Nst.** \*gobV “plain” (Sem., Cu.; A) = (Sem., Eg., Cu.; A) [IS 1965, 358]. Add perhaps CCh.: Gisiga (Dogba dialect) guva [-v- < \*-VbV] “farm” [Lks. 1970, 123]?

Lit.: OS 1989, 135 (Eg.-Gisiga).

**388. Nst.** \*gola “fire, to burn (tr.)” (K, A, D). Add perhaps Eg. dnḍn.t [if < \*glgl-t] “Feuer” (CT, Wb V 580, 1), snḍnḍn (caus.) “to incite” (MK, FD 235).

NB: Note that Eg. *ḏnḏn* < \**ḏnḏn* is also possible and should be accounted for.

**389. Nst. \*gilV** “illness, pain, distress” (Sem.; K, IE, ?A) = (id.) [IS 1971, #83]. Add Eg. *gnn* [if \**gll*] “schwach, weich sein” (OK, Wb V 174-5) ||| ECh.: Gabri *gelāle* “weak” [OS < ?].

Lit.: OS 1992, 201 (Eg.-Gabri).

**391. Nst. \*g[ä]lV** “stalk, twig → stick, trunk of tree” (Sem.; K, IE, U, ?D). Add Eg. *gn.w* “Zweige (der Bäume)” (MK, Wb V 174, 1) = “branches of trees” (FD 290). There are Chari-Nile areal parallels (see Greenberg 1963, 105).

**406. Nst. \*gāndu** “male (animal)” (Sem.; A, D). Add perhaps Eg. \**ḏnd* [< \**ḡnd*] “bull” (GT, cf. Wb V 579) = “head of infuriated bull” (Gardiner 1927, 45, F2), probably unrelated to Eg. *ḏnd* “zornig” (Wb) ||| NBrb.: Uriaghel & Ait Ammart & Iboqqoyen *agenduz* “veau” [Rns. 1932, 356] = “veau (surtout très jeune)” [Aquilina].

NB: The Brb. form was borrowed into Maltese *gendus* “bull, young ox” [Aquilina 1975, 301, #22].

**420. Nst. \*gu/ürE** “to see, look” (IE, A, D). Add perhaps Eg. *g3w* [unless < \**glw*] “staunend blicken, aufsichtigen” (XIX., Wb V 151, 2-5), *g3g3w* “stauen über, staunened blicken auf etw.” (XVIII., Wb V 157, 4-6).

**440. Nst. \*güt/dV** “belly, middle” (Cu., Ch.; U, A). Add perhaps Eg. *ḏd* [< \**gd*] “trunk (of body?)” [GT], occurring in: *ḏd nṯr dmd ṯ.wt nṯr* “ḏd des Gottes das die Glieder des Gottes zusammenhält (als Körperteil)” (GR, Wb V 627, 12).

**463. Nst. \*g[ud]V** “to sleep, spend the night” (Cu.; U, A). More fitting is to postulate Nst. \**kudV* with respect to Eg. *qd* “to sleep” (PT, Wb V 78, 11-14), *nqdd* “to sleep” (MK, Wb II 345, 1).

**483. Nst. \*hu/odV** “to be motionless, sleepy, giddy, to sleep” (Sem.; U, A) is not related to #463 (as Dolgopolsky supposes). Add Eg. 3hd “schwach, ohnmächtig” (Med., Wb I 12, 9) ||| CCh.-ECh. \**had*- “weak” [OS].

Lit.: OS 1992, 201 (Eg.-Ch.).

**491. Nst. \*halV** “to call, pronounce magic words (> praise)” (Sem., Brb.; IE, A, U). Add Eg. *hnjn* [\**hlyly*] “jubeln, Jubel” (PT, Wb II 493, 1), *hnw* “jubeln, jauchzen” (PT, Wb II 493, 15-16).

Lit.: Cohen 1947, #91 (Sem.-Eg.-Brb.); Hodge 1990, 646, #11B (Sem.-Eg.).

**492. Nst. \*huLV** “to push” (Sem.; IE). Add perhaps Eg. *hnn* “neigen, beugen” (MK, Wb II 494-495).

**501. Nst. \*hʷur'E** "top" (Cu., Berb; IE, A). Add Eg. h3j.t [if < \*hry-t] "1. Dach eines Gebäudes, 2. (end of NK) Himmel" (MK, Wb II 476, 12-13).

NB: Cf. also Nst. \*Horä "to rise, high" (IE, A, D) [Dlg. 1991 MS, #546].

**521.a Nst. \*H[ä]ka** "to need, lack" (IE, A, D). Add Sem. \*ʔky [GT]: Akk. akû "mangeln" [WUS contra AHW 30] || Ug. âky "vermissen (?)", âk-t "mangel, elender Zustand" [WUS #173].

**524. Nst. \*HVĶV** "dead" (Om.; IE, ?U) = \*HäĶV "(to be) dead" (Anat., U) [Gluhak 1980, 262]. Cf. perhaps Eg. 3q [unless < \*lq] "zu Grunde gehen" (MK, Wb I 21, 11-20; FD 6), 3q.w "ruin" (MK, FD 6).

NB: Note however, that we should not ignore an alternative archetype \*lq ~ \*rq for Eg. 3q.

**525. Nst. \*H/QaIV** "bottom, under" (Sem.; IE, U, A). Add Eg. hr "under" (OK, Wb III 386-388) ||| LECu.: Saho gál-e ~ (seldom) gáll-e "Tiefe, der untere Teil eines Gegenstandes" [Rn. 1890, 151-2] | POromoid \*gel- "under" [Black 1974, 183] (LECu.: Dlg. 1972, 208, #1.23). Cf. the same root under Nst. \*qalV "bottom, der Unterste" [Dlg. 1991 MS, #1248]. The LECu. data speak for PAA/Nst. \*g-.

NB: CCh.: Chibak \*-kil "unter", attested only in si-kil "herabsteigen" (cf. sí "kommen") [Hfm. 1955, 136] reflects the etymon \*k-r (cf. the regular change of PCh. \*r > Bura-Margi \*l).

**595. Nst. \*kabV** "sheep, goat" (Sem.; IE). Add eventually Eg. ṭb "Kalb" (OK, Wb V 361, 1) ||| Guanche: Gran Canaria te-gebi-te "Schaf, Ziege" || NBrb.: Demnat i-gbi, i-kbi, pl. i-kba-n "he-goat", Ait Ndir a-kbu ~ i-kba "id." (Brb.: Wölfel 1955, 58).

**602. Nst. \*k[a]la** "vessel" (Sem., Ch.; K, A, D). Add Eg. ṭ3.t [< \*kl-t] "Art Gefäß" (OK, Wb V 343, 3), mnṭ3.t "Schale für Wasser (?)" (MK, Wb II 92, 7).

Lit.: cf. Mlt. 1984, 15 (Eg.-Sem.).

NB: IS (1971, #154) mistakenly added here Eg. qṛḥ.t "Topf, Töpferware" (OK, Wb V 62-63), which belongs rather to a distinct AA etymon, see Zhl. 1932-33, 171; Greenberg 1963, 61, #57; Müller 1975, 66, #26, #38; Majzel'-Mlt. 1983, 208-209, 252.

**606. Nst. \*ka[h]IV** "power, force, to be able" (Sem., Cu.; IE, D). Add Eg. k33 [< \*kll] "potent (?)" (PT 2087; Faulkner 1969, Utt. 689, note 1). The PNst. root should be set up perhaps without \*-h-.

**613. Nst. \*ko[y]ḥi** "to beat, strike (> attack)" (Cu.; ?K, IE, U, D). Add Eg. knkn [< \*klkl?] "mit dem Schwanz schlagen (vom Löwen)" (NE, Wb V 134, 11).

**614. Nst. \*kolʔV** "pair, one of the pair" (Sem.; A). Add Eg. kj "anderer" (OK, Wb V 110-114).

Lit.: for the Eg.-Sem. comparison see Albright 1927, 202; Behnk 1927, 83, #34. See also Mlt. 1984, 160, #26 (Sem.-Mer.-Nub.).

**628. Nst. \*känhU** “to see, look, know” (Sem., Cu., Ch.; K, IE, D). Add Eg. *tnḥ* [< \*knḥ] “blicken” (NE, Wb V 384, 10-11).

Lit.: for the Eg.-Cu.(-Sem.) comparison see Orel 1995, 104, #71; HSED #1444; Starostin etc. 1995, 9.

NB: In Eg. *tnḥ* we may perhaps suppose a postfixation with -ḥ (unless it has sg. to do with the PNst. \*-h- postulated by Dolgopolsky), cf. also LEg. *tnj* with eye determinative “?” (NE, Wb V 380, 7). Can this additional -ḥ be explained by the analogy of Eg. *gmḥ* “sehen, erblicken” (MK, Wb V 170-171) = Sem.: Ar. *ḡaḥima* “scharf blicken”, *ḡaḥama* “to open one's eyes, stare”, *ḡaḥm-at* “eye” (Eg.-Ar.: Vycichl 1958, 383; 1959, 39)?

**643. Nst. \*kora** “anger, anguish, mental suffering” (Sem., Cu., NOM.) = (Sem., Cu., NOM.) [IS 1971, #172]. Cf. perhaps Eg. *ṭ3j* [< \*kry] “tadeln” (NE, Wb V 348, 12-15) ||| WCh. \*kar- “to punish” [Stl. 1987, 209]: hence Angas-Sura \*k<sub>1</sub>ar “to punish” [Stl. 1977, 154].

Lit.: OS 1992, 197 (Eg.-WCh.).

**644.a Nst. \*kar'[ü]** “wind” (K, D). For this Nst. root see also Fähnrich 1991, 340, #1. Add Eg. *ṭ3.w* [if < \*kr-w] “Luft, Wind, Hauch, Atem” (PT, Wb V 350-352).

**645. Nst. \*kor'V** “fig tree” (Sem.; D). Add Eg. *k3.w* [< \*kr-w?] “sycomore figs” (MK, FD 283) = “die unreifen Früchte der Sykomore” (Deines-Grapow 1959, 524).

**675. Nst. \*kUyV** “to capture, take possession of” (K, IE). Add perhaps Eg. *jtj* [if < \*ky with prothetic j-] “nehmen, ergreifen” (OK, Wb I 149-150) ||| Ch. \*k-y- “to seize, take” [OS].

Lit.: OS 1992, 198 (Eg.-Ch.).

NB: Note, however, that Eg. \*jkj can be derived from the AA root \*y-k ~ \*?-k [GT] as well.

**681.a Nst. \*kUc/éV** “to shorten by cutting, chop into pieces” (Sem., Cu.; K) or Nst. \*k<sub>1</sub>äcä “to cut” (Sem., ?Brb., Cu.; K, IE, U, ?A, D) [Dlg. 1991 MS, #682]. Add Eg. *jqš* “abschneiden” (NK, Wb I 138, 19).

**743. Nst. \*KṼ[R]KubV** “summit, top, crown of head” (Sem., Brb.; K, IE, ?D). Add perhaps Eg. *q3b.t* [< \*qrb-t?] “Scheitel, crown of head” (MK, Wb V 11, 10).

**776. Nst. \*KōKE** “to look, see” (?Cu.; IE, U, D). Add Eg. *q3q3* [if group-writing for \*qq] “blicken (zum Himmel)” (NE, Wb V 14, 4) ||| (?) Ch. \*k-[?]- “to see” [GT].

Lit.: OS 1992, 201 (Eg.-Ch.).



**806. Nst. \*K[U]NV** “to tie” (Brb., Ch.; K, IE, A). Add Eg. qn “weben (?)” (GR, Wb V 50, 4).

**862. Nst. \*KeyV** “to do, make” (A, D). Add Eg. qj “gestalt, Wesen, Art” (MK, Wb V 15-16) = “form, shape, nature” (FD 276) ||| NOm.: Chara qay “fare” [Crl. 1938 III, 174; cf. Blz. 1989, 207, #182] ||| PCh. \*k- “to do” [NM]: CCh.: (?) Tera čá [< \*kV?] “to do” [NM] | Mafa-Mada \*K- “to make, do” [GT]: Mofu -k- [Brt.], Matakam ga [Schubert], Gisiga (Dogba) ge [Lks.] (CCh.: NM 1966, 241, #129; JI 1994 II, 229).

NB: For the semantic shift in Eg. qj cf.: 1. Eg. qd “bauen, bilden, schaffen” (PT, Wb V 72-73) → qd “Wesen, Art, Gestalt” (PT, Wb V 75-77) ||| Sem. \*qadd- “Gestalt” [GT]: Akk. \*qattu → (bab.) kattu ~ gattu “Gestalt” [AHW 283] || Ar. qadd- “Gestalt, Maß, Umfang”, cf. qid-at- & qudw-at- “Muster, Vorbild” [Vcl.]. AP: cf. Nil.: Luo kido, kite “type, kind” [Gregerson 1972, 107]. For Eg.-Ar.: Alb. 1919, 191, #41; 1927, #82; Chn. 1947, #226; Vcl. 1958, 377; 1985, 171, #7; 1990, 58; Hodge 1968, 27; Dlg. 1973, 68. 2. Eg. qm3 “schaffen” (PT, Wb V 34-36) → qm3 “Gestalt, Wesen” (MK, Wb V 36, 9) ||| SBrb.: cf. Ghat a-γma “faire” [Bst. 1883, 323]. 3. Eg. jrj “to do, make” (OK) → jr.w “shape, form” (MK, FD 27).

**862.b Nst. \*K/kuya** “sinew, string, bowstring, thread” (Sem., Brb.; IE, A, D). Add Eg. \*t̥ [reg. < \*k before \*-i-/\*-u-] “Seil mit zwei Ösen” (Wb V 337, 3), cf. also t̥t̥ [< \*kk-t̥] with rope det. “?” (PT, Wb V 414, 1).

NB: Any connection to OEg. ḥm3t̥t̥ with rope det. “Art Seil” (PT, Wb III 95, 6). Compound?

**872. Nst. \*lu?V/\*liw?V** “cattle” (Sem., Cu., Ch.; U). Add probably Eg. jw3 [unless < \*?wr] “Rind” (OK, Wb I 49, 9-10), jw3.t coll. “Rindvieh” (OK, Wb I 49, 14).

Lit. for comparing Eg. jw3 to Sem.-Cu.-Ch.: Djik. 1981, 32; 1988, 46; Mlt. 1987 MS, 5.

**874. Nst. \*LabV** “to grasp, get” (Sem., Brb., Ch.; IE, A) = [IS 1976, #262] (Sem., Brb., Ch.; IE, A). Add Eg. jbt̥t̥ [< \*l̥bk-t̥] “Vogelfalle” (OK, Wb I 65, 1-2), jbt̥t̥j “Vogelfänger” (OK, Wb I 65, 3), which correspond exactly to Sem. \*l̥bk “to grasp” [GT], containing the same C<sub>3</sub> root complement.

NB: Blažek (1990, 206) mistakenly added to this root ECu. \*lab-/leb- “big, many” [Sasse], which is semantically unacceptable.

**880. Nst. \*LVga** “to lie” (K, IE) = \*Laga “лежать” (K, IE) [IS 1976, 35-36, #271]. Add Eg. 3g [< \*lg] “to plant, pflanzen” (PT, Wb I 22, 8), which is semantically especially close to Krt. \*lag- ~ \*lg- “1. to put → 2. to plant” [Klimov 1964, 118-119].

**881.a Nst. \*L[a]γ/gU** (or \*-wV) “meat” (WCh.; K). Add Eg. jw<sup>c</sup> [< \*lw<sup>c</sup>] “Fleischstück am Knochen” (OK, Wb I 50, 3-5).

**883. Nst. \*Luka** “to bend” (Brb.; IE). Add Eg. 3k [< \*lk] “beugen (≈ ḥ3b)” (MK, Wb I 22, 3).

**885. Nst. \*LukV** “to destroy, gnaw, kauen” (AA; IE). Cf. perhaps Eg. jk [if < \*lk] “(die Krallen) gebrauchen (gegen den Feind?)” (PT, Wb I 139, 2) = “(Krallen) gebrauchen, \*wühlen” (GHWb 108).

**904. Nst. \*LayLV** “night, time of sleeping (?)” (Sem.; ?K, D). Add Eg. nn [< \*ll?] “Finsternis, Nacht” (GR, Wb II 274, 5).

Lit.: for the Eg.-Sem. comparison see Erman 1892, 113; Cohen 1947, #440; Vcl. 1958, 377.

**905. Nst. \*l’ama** “to knead, make soft” (?Sem., Agaw, WCh.; IE, U, D, ?K) = (id.) [IS 1976, #254]. Add Eg. 3mj [< \*lmy] “mischen, vermengen” (CT, Wb I 10, 10).

NB: C. T. Hodge (1968, 22) equated Eg. 3mj with SBrb.: Hgr. e-ilēm “être dissous” [Fcd.].

**907. Nst. \*LVm?V** “lioness” (Sem., Ch.; K). Add LEg. 3m [reg. < \*lm] “Löwe” (GR, Wb I 10, 6) ||| CCh. \*lum- “lion” [OS], attested actually only in Zime-Batna lúm [Jng.] = lúm [Scn.] (CCh.: JI 1994 II, 227).

Lit.: OS 1992, 183 (Eg.-CCh.).

**908. Nst. \*LaHm[u]** “swamp” (K, IE, U, A) = [IS 1976, #263] = Nst. \*laHmo (IE, K, A, U with no presentation of AA data) [Dlg. 1994 MS, 4, #10]. Kločkov & Palmajtis (1977, 72), followed by Blažek (1990, 206), added Akk. luḫmû ~ luḫummû “Schlamm, Morast” [AHW 562: of unknown origin], which speaks for Nst. \*LV[q]m[u].

NB: Any connection to Eg. jḫm.t [< \*lḫm-t] “Ufer (vom Fluss und vom Tale) “ (OK, Wb I 125, 17) = “riverbank” (FD 29)?

**914. Nst. \*l[e]p̃A** “spleen” (Cu., Ch.; ?IE, U, A). OS (1992, 171; 1992, 186) added to this AA/Nst. root Eg. np3 “Darm” (CT, Wb II 247, 12) → np “Darm” (LP, Wb II 247, 11). I am not convinced by this idea primarily for semantical reasons.

**920. Nst. \*Lah[p̃]V** “flame, to glow” (Sem.; K, IE). In Sem. \*lhb, the root medial \*-h- seems to be a secondary root-complement (common in Sem., cf. Moscati 1947, 127; Belova 1992, 137). Thus, I would omit \*-h- in the PNst. reconstruction. This biconsonantal AA \*l-b “to burn, flame” [GT] can be found in Sem.: ES \*lblb [GT]: Tigre & Tigrinya läbläbä “to burn”, Amh. läbälläbä “bruciar poco” (Sem.: Conti 1980, 50-51) ||| Eg. 3b [< \*lb?] “Vieh, Sklaven mit einem Brandmal stempeln” (Lit. NK, Wb I 6, 18-19) = “to brand (slaves or cattle), scorch (the skin)” (FD 2), 3b “Brandstempel” (NE, Wb I 6, 23) ||| perhaps Bed. luw [-w reg. < \*-b] “(ver)brennen, etwas anzünden” [Rn.] = liw “to burn (tr.)”, lau (refl.) “to be burnt, burn (intr.)” [Rpr. 1928, 213] ||| HECu. \*laban-o (suffix \*-n-?) “flame” [Hds. 1989, 417] ||| WCh.: PAngas \*lap [-p reg. < \*-b] “to burn, flame” [GT]: Angas lap “to light” [Ormsby 1914, 313] = lap-lap “the ascending of a flame” [Flk. 1915, 234] = lāp-lāp kə wus “Feuersbrunst” [Jng. 1962 MS, 22] = lap’ (so -p’) “to burn”, lap “burning”, lap-lap kə wus “flames” [ALC 1978, 31].

Lit.: Rn. 1895, 160 (Bed., Sem. \*lhb); Cohen 1947, #434 (Sem. \*lhb, Eg. rhb.w, Bed.). NB: Eg. rhb.w [< \*lhb-w] "Glut des Feuers", hence Coptic: (SB) elhōb is a loan from Semitic (although in some works it seems to be treated as genetic cognate, cf. Calice 1936, #239; Vergote 1945, 137; Cohen 1947, #434).

**926. Nst. \*l/[o]šV** "weak" (Cu.; IE, U, D). Add Eg. jsj [reg. < \*lsy] "leicht sein" (Lit. MK, NE, Wb I 128, 4) = "leicht, unbedeutend sein, leicht liegen" (GHWb 101) ||| Sem.: Ar. laṭlaṭa I "2. être faible, débile" [BK II 965] = "to be weak, feeble, irresolute" [Dlg.] ||| NBrb.: Menaser i-llisu "fané" | Zwawa a-sellaw "être fané" (NBrb.: Bst. 1885, 164). From AA \*l-č "soft, light, weak" [GT]. The Sem. data change the PNst. reconstruction to \*L[o]čV.

Lit. for Sem.-Cu.: Dlg. 1983, 136; 1987, 196, #7; HSED #1669.

NB: Sem. \*lwī "to knead" [GT] and Eg. jwšš [< \*lwšš] "Brei, Teig" (Wb) were derived by IS (1976, #266) from Nst. \*Lawša "weak, loose" (Dlg. 1991 MS, #126.a), which cannot be accept, since it is semantically unconvincing.

**927. Nst. \*LašV** "to rub, damage" (K, IE, D). Add Eg. nss [< \*lss?] "Verletzung (?)" (NE Mag., Wb II 321, 4), nss "beschädigen (Statuen, Inschrift)" (MK, Wb II 336, 12-13).

**929. Nst. \*L[o/ay]tV** "moist" (?Ch.; K, IE, A, ?D) = \*L[a]tV "wet" [IS 1976, #265]. Cp. perhaps Eg. nnt "Schweiss" (BD, Wb II 356, 13), ntt "Ausfluß, Speichel" (LP, Wb II 357, 6). Uncertain.

**930. Nst. \*L[a]tV** "skin/leather, bark" (Sem., WCh.; IE, ?A). Add Eg. nnt "Haut" (Med., Wb II 356, 12), ntt "Haut des Körpers" (LP, Wb II 357, 4).

Lit.: OS 1992, 186 & HSED #1655 (Ch.-Eg.).

**945. Nst. \*maʕ/γ/gV** "good, beautiful" (Cu.; IE, D). Add perhaps Eg. m3ʕ [if < \*mʕʕ] "richtig, wahr" (OK, Wb II 12-15) ||| NBrb.: Zayan i-ma "es ist wahr" [Zhl.: originally \*"wahrlich, wahrhaftig"] ||| NOM. \*maʕ- "to be good" [GT] ||| Ech.: Sokoro maia "gut, schön" [Lks. 1937, 35].

Lit.: Zhl. 1932-33, 93 (Eg.-Zayan); Hintze 1951, 84, #400 (Eg.-ECu.); Dlg. 1973, 179 (Cu.-NOM.-Eg.); Mkr. 1987, 197 (Ech.-ECu.-NOM.).

**962. Nst. \*mahk/ga** "child" (Sem.; IE, D) ~ (?)Nst. \*maḵU "baby, child" (K, IE, D) [Dlg. 1991 MS, #969]? Add perhaps Eg. mg3 [GW of \*mgʕ] (with child determinative) "junger Krieger" (XVIII., Wb II 164, 6).

**976. Nst. \*maLV** "mountain" (IE, D). Add Eg. mn.tj [< \*ml-tj] dual "die beiden Berge" (GR, Wb II 69, 3), mn.w [< \*ml-w] (stone det.) "mountain range" (NE hapax, Pap. Leiden I 348, 2R3, DLE I 219) = "Gebirgszug" (GHWb 338) ||| presumably NBrb. \*a-malu "mountain slope protected from sunshine" [GT]: Shilh a-malu, pl. i-mula "versant ombreux" [Dst. 1938, 292] | Rif \*a-malu [GT]: Iznasen a-mälu, Iboqqoyen & Ammart &

Tuzin maṛu, Senhazha a-nmalu etc. “versant d’une montagne abrité du soleil” (Rif: Rns. 1932, 387) | Qabyle a-malu, pl. i-mula “versant le moins ensoleillé, le côté de l’ombre où la neige reste le plus longtemps (l’ubac)” [Dlt. 1982, 498] || perhaps SCu.: Dhl. málōl-a, pl. málōlēma “cow’s hump” [EEN 1989, 37].  
Lit. for Eg.-NBrb.: Takács 1996, 175, #132.

**Blž. 1992, 255: Nst. \*mä/üli** “to smoulder, smouldering fire” (based on the comparison of Sem: Ar. mall-at- “heiße Asche, glühende Kohle” with ?ECu.; IE, Ckc., A, D parallels). Add perhaps LEg. mn.t [if < \*ml-t] “Schmelzfeuer” (LP, Wb II 68, 16), mn.w m d<sup>c</sup>b.t “ein Kohlfeuer” (GR, Wb II 69, 1) || SBrb.: Hgr. ě-memmel, pl. i-memmel-en “tison (morceau de bois à demi-enflammé)”, dimin. té-memmel-t, pl. ti-memmel-în “1. petit tison, 2. p.ext. petite braise ardente: petit fragment de bois réduit en charbon et ardent” [Fcd. 1951-2, 1198], EWlm. a-mämmäl, pl. i-mämmäl-än “1. tison, 2. flambeau” [PAM 218].

NB1: Drv. \*muḷi “to be dry” does not belong here (attached by Blažek l.c. mistakenly to this Nst. root).

NB2: The etymology of LEg. mn.t is debated. The conventional Egyptological derivation of LEg. mn.t and mn.w from OEg. mn “bleiben, von Dauer sein” (Osing 1976, 122, 595) seems to me unconvincing. On the other hand, it might be compared also with WCh.:

Boghom muuyūuḡ “ashes” [IL] = muyūḡ [Jng.] | Ron \*m<sup>w</sup>an “fire” [GT]: Bokkos man, Fyer-Tambas maan, Daffo-Butura, Sha mwan (Ron: Jng. 1970, 390, 420). For Eg.-Boghom see OS 1992, 186; HSED #1797.

**977.b Nst. \*m[ä]LV** “1. to hide, 2. lie, deceive” (Cu.; K, ?IE, A). Add perhaps Eg. jmn [Blv.: \*jml < \*mil ~ \*mal poss.] “verbergen, verstecken” (OK, Wb I 83-84) || WCh.: Sura mwáal “verheimlichen” [Jng. 1963, 76].

**995. Nst. \*man<sup>a</sup>** “to stop, delay (tr.)” (Sem.; A, D). Interesting is Eg. mnq “zu Ende bringen, vollenden” (MK, Wb II 89, 16-19) with an unexpected -q.

**1014.a Nst. \*m[e]rV** “to flash, sparkle” (Brb.; IE, A, D). Add Eg. m3.wt ~ m3.w [if < \*mr-w] “die Strahlen der Sonne, ihr Glanz” (XVIII., Wb II 28, 1; FD 103), m3wj “bestrahlen, erleuchten” (GR, Wb II 28, 5).

**1028. Nst. \*mVtV** “worm” (?Cu.; IE, K). Add perhaps Eg. mtj (worm determinative) “?” (LP Mag., Wb II 169, 9).

**1041. Nst. \*n/ñec/čV** “to plait” (Sem., Brb.; D). Add Eg. nš “das Haarmachen, ob: kämmen (?)” (BD, Wb II 337, 3) = “to dress hair” (FD 140).

**1056.a Nst. \*ñüke** “to hurt, spoil, be hurted, worn out” (Sem.; IE, U, A, D). Add perhaps Eg. nkn “verletzen, beschädigen” (PT, Wb II 346, 8), nknk.t and nkk.t “das verletzte Auge” (BD, Wb II 347, 6, 9).

Lit.: for the Sem.-Eg. equation see Ember 1913, 115, #47; Calice 1936, #55; Bomhard 1986, 254.

**1077. Nst. \*nur'V** "to penetrate" (IE, D). Add perhaps Eg. nw3 [if < \*nwr] "ein Gerät bei der Zeremonie der Mundöffnung" (PT 13, Wb II 222, 1) = "adze" (FD 127)?

**1163. Nst. \*p/pen/nV** "dog" (K, U, D). Interesting is Eg. bfn "Hund" (GR, Wb I 456, 4-5).

**1179.a Nst. \*p/parV** "(a female?) bovine" (Sem.; K, D). Add Eg. prj "als Bez. des Kampfstiers" (MK, Wb I 526, 2) = "ferocious bull" (FD 91).

Lit.: Wölfel 1955, 59 (Eg.-Sem.); Ward 1961, 36, #17 (Eg.-Ug.); SISAJa I, #141 (Sem.-Angas); Dlg. 1994 MS (Sem.-Eg.-Margi-Angas); HCVA 1, #27, adopted also in HSED #1950 (Sem.-Eg.-Mbara); Takács 1996, 119, #18; 1996, 134, #23 (Eg.-Sem.-Ch.).

**1228. Nst. \*p/pU[w]tV** "1. hole, chink, 2. vulva" (Sem., Cu., Ch.; K, A, D). Add Eg. wft [Belova: < \*fut] "durchbohren" (Med., Wb I 306, 7).

**1259. Nst. \*qurV** "to pierce, hole, pit" (Sem.; K, ?U, A, D). Add Eg. hr "Grab, Nekropole" (NE, Wb III 323, 9-16), hrj.t "Grab" (LP, Wb III 323, 17-18) ||| SBrb.: Ahaggar ĕ-ġēr "creux de terrain formé par l'eau" [Fcd. 1951-2, 486], EWlm. & Ayr ǝ-girer "creux de terrain/ravin formé par l'eau" [PAM 99] = "cavity in the ground made by water" [Mlt.] ||| LECu.: Oromo hura ~ ura "to make a hole" [Gragg 1982, 218] ||| WCh. \*ḥur-/\*ḥir- "to dig" [Stl. 1987, 224].

NB: For the shift of meaning in Eg. cf. esp. Ug. hr-t "Grab" [WUS].

Lit.: Mlt.-Stl. 1990, 60, #40 (Sem.-Eg.-SBrb.-WCh.).

**1262. Nst. \*qVRV** "brook, stream" (Cu.; K). Add Sem.: Ar. ḥawr- "terrain plat encaissé entre deux montagnes, 2. golfe, 3. embouchure d'un fleuve" [BK I 645].

Lit.: Cohen 1947, 162 (Ar.-ECu.); Dlg. 1987 MS, #48 adopted in Blažek 1994 MS Elam, 18 (ECu.-Akk.).

NB: Akk. ḥarru "Wassergraben" [AHW 327] cannot belong here (as suggested by Cohen & Dolgopolsky ll.c.), since it derives from Akk. ḥarāru "graben, aushöhlen" [AHW 323].

**1264. Nst. \*qVrSV** "mountainous region" (Sem.; K, IE, A, D). Add Eg. ḥ3s.t [< \*ḥrs-t] "Bergland, Fremdland, Wüste" (PT, Wb III 234, 7-12) ||| SBrb.: Ahaggar ā-ġûras "vallée" [Fcd. 1951-2, 487] = ta-ġuras (sic) "place where trees grow" [Mlt.], Ayr & EWlm. ǝ-goras "forêt, brousse, vallée (boisée)" [PAM 99] ||| (?) CCh. \*g"araS- "forest", orig. \*"mountain" (?) [GT]: Boka ḥûrafča [Mlt.: \*ḥuras-ta] [Krf.] | Mwulyen gârâḫi [Krf.] (CCh.: Krf. 1981, #146).

Lit.: for Eg.-Sem. see Cohen 1947, #152; Vergote 1945, 129; Mlt. 1984, 16; 1994, 248-249. For Sem.-Eg.-Brb.-CCh.: Mlt. 1987 MS, #45.

**1265. Nst.** \*qusU “to remember, have in mind” (Sem., Cu.; A, K). Noteworthy is Eg. šh3 [if < \*šhʔ] “sich erinnern” (PT, Wb III 232-233) = “to remember, call to mind” (FD 240). Metathesis from \*hs3 < \*hsʔ?

**1276. Nst.** \*qoLV “to kill” (Cu., Ch.; K, ?U, D). Add Eg. ḥwn [< \*ḥwlʔ] “stechen, stoßen (von Tieren)” (NK, Wb III 247, 13-15).

**1277. Nst.** \*qolʔE “testiculus” (Cu., ?Brb., Ch.; K, IE, U). In Sem. there are apparently no sure genetic reflexes, but cf. Maghrebi Ar. qalwa, pl. qlāwi “testicle” [Apl.] = qəlwa [Chn.] (probably a Brb. loan) | MSA \*qVhVI- “egg” [GT]: Sq. qehélihen [Lsl.] = (Hadiboh-Suq dial.) qəhəlhin ~ qəhəlhin [Jns.], Jbl. qahalít [Lsl.] = EJbl. qəhəl coll. [Jns.], CJbl. qəhézín of any bird & qəhəl of hen [Jns.], Mehri qali [Lsl.-Apl.] = qáwhəl (coll.) [Jns.] (MSA: Lsl. 1938, 369-370; Jns. 1981, 143; 1987, 227) | Geez \*qʷəlḥ “testicles” [Lsl.], OAmh. qʷəlha “testicles” [Apl.], Amh. qula ~ qʷəla “testicles” vs. ənqʷəlāl “egg” [Apl.] etc. (Sem.: Apl. 1977, 57; Eth.-Sem. borrowed probably from Agaw, cf. Lsl. 1988, 86).

NB: The position of Eg. ḥr.wj “die Hoden” (PT, Wb III 393, 5-7) is debatable. Usually, it is treated as a nisba (in dual) from Eg. ḥr “under”, i.e. \*ḥr.j.wj “the two which are beneath”.

**1281. Nst.** \*qewIE > \*qüyIE “to hear; ear” (Sem., Cu.; K, IE, U, A, D). Add Eg. whr [Belova: < \*ḥul] “jem. erhören” (GR, Wb I 355, 7).

**1294. Nst.** \*ḡUṇa “nose” (Cu., Brb.; ?K, A). Interesting is Eg. ḥnm “riechen, einatmen” (MK, Wb III 292, 4), ḥnm.(t) “Geruch (der Nase)” (NE, Wb III 293, 7), ḥnm.tj “Nasenlöcher” (LP, Wb III 293; 376-377). Note, however, that the Eg. root may derive from \*ḥlm too.

**1298. Nst.** \*qārV “to smell” (Cu.; K, IE, U, D). Add Sem.: Ar. nuḥar-at- “pointe du museau, narine”, nuḥr-at- “nez”, ma-nḥar- ~ mi-nḥir- ~ mu-nḥur- “narine, nez”, ma-nḥūr- “narines” [BK II 1220] ||| (?) Eg. šr.t [if from \*ḥr-t] “nose” (PT, Wb IV 523-524). Lit. for Eg.-Sem.: Belova 1989, 16.

**1299. Nst.** \*ḡUriʔV “to shout, call” (Brb., Sem.; K, IE, U, D). Add Eg. ḥrw “Stimme, Geräusch” (PT, Wb III 324-325) ||| WCh. \*qirawa/\*qʷara “cry, call” [Stl. 1987, 220] ||| SCu.: Iraqw ḥūrāʔi “rumbling sound”, ḥūrūʔ- “to make a rumbling sound” [Mgw. 1989, 102] = ḥuray “rumble, roar” [Mlt.]. Lit.: OS 1990, 83, #28; 1992, 198; Mlt.-Stl. 1990, 61.

**1300. Nst.** \*quri “to love → prefer” (Sem.; K, A, D). Add Eg. wh3 [Blv.: < \*ḥur] “suchen, wünschen, begehren” (MK, Wb I 353-354) ||| Bed. haru ~ hari(w) “to want, wish, will, seek, look for, search for” [Rpr. 1928, 198]. Lit.: Cohen 1947, #160 adopted in Zbr. 1971, #112 (Sem.-Bed.).

**1308. Nst. \*qoyV** “to build, make” (K, IE, ?A, ?D). Add perhaps Eg. ḥ.w (pl. tante) “Art” (MK, Wb III 216, 3-13). Parallels for the semantic shift in Eg. are listed above (#862).

**1320. Nst. \*račV** “dirt” (Sem.; U). Add Eg. 3s.w [< \*rs-w] “Vogelmist (?)” (MK, Wb I 20, 14).

**1329. Nst. \*rEHi** “thing” (Cu.; K, IE). Add perhaps Eg. jḥ.t [if < \*rḥ-t] “thing” (OK, Wb I 124-125). If this Eg. etymology is valid, we should postulate Nst. \*rE[ḥ]i.

**1342. Nst. \*rās/čV** “to sprinkle” (Sem.; IE, U, ?A). Cp. perhaps Sem.: Ar. raṣaḥa [complement -ḥ?] “suint, distiller une liqueur, suer, couler (d’un vase contenant quelque liquide)”, raṣḥ- (dial. of Aleria) “rhume” [BK I 865] ||| Eg. rš “Schnupfen” (Med., Wb II 453, 19).

Lit.: see also Belova 1989, 16 (Eg.-Ar.); OS 1990, 82 (Ar.-Ch.).

**IS 1965, 358: Nst. \*ru[č]V** “to destroy” (WCh.; IE, U). The derivatives of WCh. \*rūs- “to destroy” [GT] = \*ra(w)s- [Stl. 1987, 236] = \*rus- [OS 1988, 72, #51] are: Hausa rúúšè [-še < \*-se] “1. to collapse, be demolished, 2. cause to collapse”, cf. rúúsà “to thrash (so.) with a stick” [Abr. 1962, 746] | Bole ruuš- “zerstören” [Lks. 1971, 137]. The underlying AA root is attested outside WCh. too, cf. Sem.: Ug. rš “zerstören (?)” [WUS #2545] ||| Eg. w3sj “verfallen sein” (OK, Wb I 260-1) = “to be ruined, decayed” (FD 55). From AA \*r-w-s “to destroy” [GT]. According to Belova’s law, Eg. w3sj derives from \*3wsj, i.e. \*rwsj.

**1345. Nst. \*rVwhV** “broad” (Sem.; IE). Add Eg. w3ḥ [Blv.: < \*ruḥ] “dauern” (MK, Wb I 255) = “to live long, endure” (FD 54).

**1348. Nst. \*/s/IbV** “strap, thong” (Sem., ?Brb., Cu.; U). Add perhaps Eg. šbj.w ~ šb.w “necklace” (NK, FD 264) = “Halsband (?)”, Spange (?)” (Wb IV 438, 11-13)?

**1366. Nst. \*sulV** “moist(ure)” = (id.) (?Ch.; IE, A, U, K) [IS 1965, 333]. Noteworthy is Eg. swn.w [if < \*swl-w] “Gewässer, Teich” (BD, Wb IV 69, 5).

NB: For a different etymology of Eg. swn.w see OS 1992, 172; HSED #2276.

**1382.a Nst. \*simV** “moisture” (Cu.; K, A, D). Cp. Eg. sjm “Nebel” (CT, Wb IV 37, 6) ||| CCh. \*sam- “rain” [GT]: Logone sama | Mandara samaya (CCh.: Grb. 1963, 62). Lit.: OS 1992, 187 (Eg.-CCh.).

**1384. Nst. \*sV/umV** “name” (Sem., Brb., Ch.; ?K, IE, ?A). Add Eg. smj “berichten, anzeigen” (MK, Wb IV 127-128) = “to report, announce, proclaim” (FD 227).

Lit.: for the Eg.-Sem.-Brb.-Ch. comparison see Vycichl 1955, 307; 1958, 399; 1974, 62; Dlg. 1990, 216.

**1407.a Nst.** \*sür'V "liquid, mucus" (Cu., ?Brb.; IE, U, ?D). Add Eg. srj.t "cough, Husten" (Med., Wb IV 192, 19; FD 235) ||| ECu. \*sirn-/surn- "Nasenschmutz, Rotz" [Sasse 1976, 127] = "nasal mucus" [Sasse 1979, 32].

**1408.a Nst.** \*ši[h]rV (or \*s-?) "1. late, 2. evening" (Sem., Cu.; K, IE, A, D). Add perhaps Eg. šs3.t [if < \*šsr-t] "night" (PT, Wb IV 545, 2).

**1429. Nst.** \*SäyV "shin" (?Ch.; U). Add Eg. \*jsw "leg-bone with adjoining meat" (Gardiner 1927, 457, F44) and sw.t "leg of beef, tibia" (PT, Wb IV 60, 2).

**1434. Nst.** \*šubyV "spear" (Sem.; K, U, ?A). Cp. CCh.: Masa saba "spear" || ECh.: Mubi cóḅu "spear" (Ch.: IS 1966, 30, #10). See also SISAJa III, #18.

**1477. Nst.** \*šil'V(-ma) "to look, examine" (U, A). Cp. Eg. šnw [if < \*šlw] (eye det.) "(Akten) durchsehen" (NE, Wb IV 499, 8).

**1488. Nst.** \*š[o]rbV "to drink, gulp" (Sem.; IE, A, D). Add Eg. š3b.w [< \*šrb-w] "food, meals" (MK, FD 261) ||| WCh. Hausa šārḃáá "to noisily drink soup" [Abr. 1962, 802]. Lit.: Hodge 1966, 46, #60 (Eg.-Hausa); Hodge 1990, 647, #17a (Eg.-Sem.).

**1493. Nst.** \*šay'V "thing" (Sem.; A). Add perhaps Eg. jš.t "Habe, Besitz" (PT, Wb I 134, 13-16). Lit.: for Ar.-Eg. see Behnk 1927, 81, #5; 1928, 139; Albright 1927, 202, #67; Dlg. 1987b, 204, #72.

**1505. Nst.** \*taku[ń]V "bug" (Cu.; D). Nst. \*-[ń]- seems to be secondary, if we compare AA \*tVkw- "bug" [GT]: Eg. tkk.t "Schlupfwespe (Ichneumonida)" (PT, Wb V 336, 12) ||| SCu.: Burunge tika'iya "tsetse fly" | Dahalo tákkwa'e "dung beetle" (SCu.: Ehret 1980, 169) ||| ECh.: PSomray \*dug- "fly" [GT]: Tumak dúgón [Cpr.], Ndam dúgé [Jng.] (ECh.: JI 1994 II, 149).

NB: Any connection to LECu.: PSam \*taqsi "fly" [Heine 1978, 74]?

Lit.: Mukarovsky 1987, 176 (ECh.-ECu.-SCu.).

**1515. Nst.** \*tul'E "to shine, be bright" (Cu.; A, D). Add perhaps Sem.: Ar. taliy- "spangle" || Tigre tālāwu "to flash, sparkle" (Sem.: SISAJa II l.c.) ||| Eg. jtn [Blv.: < \*til?] "(disk of) sun" (MK, Wb I 145, 1-8) ||| WCh. \*talV "sun" [Stl. 1987, 167]. Lit.: SISAJa II, 25, #48 (Sem.-WCh.).

**1515.a Nst.** \*tal'V "to pound" (K, U, D). Remarkable is the isogloss of OEg. tj [-j reg. < \*l ~ \*r] "zerstampfen, niedertreten" (PT, Wb V 237, 10-11), tjtj "niedertreten, zertreten" (XVIII., Wb V 244, 3) ||| WCh.: Miya təríy- "to pound" [Skn. in JI 1994 II, 268].

NB1: For the change of Eg. -j < AA \*-l see Djk. 1965, 24-25, #9; 1984, 6; 1988, 40; Djk. etc. 1987, 28; Majzel'-Mlt. 1983, 114.



NB2: Note that Eg. *tj* can, however, derive from AA *\*t-y* too.

**1520.b Nst. \*tāl'V** “to pierce, bore” (Cu.; A). Add Eg. wtn [Belova: < *\*tul'*] “durchbohren” (NE, Wb I 380, 10-11) ||| PCu. *\*Tel-* “to prick” [Ehret 1987, #615].

NB: Cp. perhaps also the isogloss of Eg. *mtnj.t* (m- nomen instrumenti) “Art Beil” (CT, Wb II 171, 6) ||| SBrb.: Ahaggar *tū-tela*, pl. *tū-telaw-in* “Axt” [Rössler 1964, 210].

**1526.a Nst. \*tāh[V]mV** “fire, to kindle, very hot” (Sem., Om., ?Cu.; A). Add Eg. *thm* “etwas kochen” (GR, Wb V 322, 6). The Eg.-Om. isogloss speaks for Nst. *\*tāh[V]mV*.

**1533. Nst. \*tiiri** “to pierce, horn” (?Cu.; ?IE, A, D). Add Eg. *tr* “horn” (GR, Wb V 317, 13) ||| WCh.: Pa'a *tari* & Siri *ta'ari* “broad-bladed hoe” [Skinner 1977, 26].

**1573.a Nst. \*teLV** “to shout, call” (?Sem., Ch.; K, IE, D). Add Eg. *tj3* [reg. < *\*tyl*] “stöhnen, schreien, zujubeln” (MK, Wb V 241, 6-7) = “to shriek” (MK, FD 294) = “to clamor, cry out” (NE, DLE IV 73).

**1585. Nst. \*t[o]mV** “to cut (off)” (Sem.; IE, A, D). Add Eg. *dm.t* “knife” (MK, FD 312), cf. *dm3* “to cut off (heads)” (XVIII., FD 313).

**1628.a Nst. \*tehr[E]** “to clean, pure” (Sem., Cu.; ?A, D). The internal *\*-h-* may again be only a Sem. innovation, cp. Eg. *twr* “reinigen, gereinigt, rein sein” (MK, Wb V 253-254) ||| CCh. *\*t-w-r* “clean” [OS].  
Lit. for Eg.-CCh.: OS 1992, 193.

**1636. Nst. \*tURyV** “litter, rubbish, dirt” (Sem., Ch.; IE, A, D). Add Eg. *tr* “Unreines” (LP, Wb V 317, 12), *trj.t* “Unreines” (NK, Wb V 317, 12) ||| HECu. *\*tur-* “to be dirty” [Hds. 1989, 423].

**1638. Nst. \*tuṭV** “clan, everybody” (?Sem., Ch.; IE, ?U, A). Cp. perhaps Eg. *tw* “versammeln, versammelt sein” (PT, Wb V 259-260) ||| WCh. *\*tVt-* “to gather” [GT].  
Lit.: OS 1992, 195 (Eg.-WCh.).

**1659. Nst. \*wa/äl'V** “to turn, revolve” (Sem., Brb., Cu.; IE, ?A, D). Add Eg. *wjn ~ wj3* [*\*wyl*] “zurückweisen” (MK, Wb I 272, 12).

**1663. Nst. \*wol[y]V** “to look, see” & *\*wELV* “to look, eye” (Brb.; U, IE, A, D). Add Eg. *wnwn* eye determinative [< *\*wlwl'*] “die Sterne beobachten” (XIX., Wb I 318, 11) ||| Bed. *wāli* “finden” [Rn. 1895, 237] ||| WCh.: Angas-Sura *\*ōl* “to look at” [GT]: Angas (Garam, hill dialect) *ol* “to look at” [Gochal 1994, 35], Mupun *óol* “to scan, look through” [Frj. 1991, 47] || CCh.: Chibak *wula* “ansehen, schauen” [Hfm. 1955, 135] = *wule* “to see” [IL], WMargi *wùla* “to see” [Krf.], Margi *wùlefyu* “to see” [Krf.] (BM: Krf. 1981, #348) | Gidar *úla* “to see” [Mch.] | (?) Matakam *war* [-r < *\*-l'*] “to see” [Skn.] || ECh.: Mokilko *wúllè* “sehen, schauen” [Jng. 1977, 87] = *wóllè* “voir, regarder,

surveiller, examiner, apercevoir, remarquer” [Jng. 1990, 196] (Ch.: JI 1994 II, 284-285).  
From AA \*w-l “to see, look” [GT].  
Lit. for Brb.-Bed.: Rössler 1964, 207.

**1695.a Nst.** \*w[a]R<sup>o</sup>/γV “weak (of a person)” (Sem.; IE, A). Interesting may be still Eg. wrd [if < \*wr<sup>o</sup>] “müde werden” (OK, Wb I 337-338).

NB: For the rare, but undoubtedly existing correspondence of Eg. d = Sem. \*<sup>o</sup> see Ember 1930, #24d; Calice 1936, 232-233; Vergote 1945, 147, #24b; Cohen 1947, #80-82.

**1695.b Nst.** \*weh/hrV “mad, dizzy, intoxicated” (Sem.; IE, ?U, D). Add Eg. wh3 [< \*whr] “der Törichte, Unwissende” (MK, Wb I 354, 11) = “fool” (FD 68).

**1714. Nst.** \*w[e]tV “year” (Brb.; IE, A) = [IS 1965, 377]. Add Eg. wt “alt sein (?)” (PT, Wb I 377, 20), wt.w “ältester Sohn” (PT, Wb I 377, 21). The Brb. parallels point to PAA/PNst. \*-t- (not \*-t̥-).

NB1: C. T. Hodge (1968, 23) compared also HECu.: Sidamo woté “tempo, volta” ||| NOm.: Ometo wode “time”, though these might be loans from Ar. waqt-.

NB2: For the meaning of Eg. wt see the well known derivatives of the supposed IE cognate, PIE \*wet- “year”, yielding in Latin vetus “old”, Russian ветхий “old” etc. (IEW 1175).

**1761.a Nst.** \*yerV “1. to curse, 2. to cause misfortune, 3. misfortune” (Sem.; U, A, ?D). Add perhaps Eg. jrr “evil-doer” (MK, FD 7), jr.w-jr.wt “als Bez. für böse Wesen (who perform jr.wt)” (PT, Wb I 114, 14) ||| HECu.: Burji yér-ā “bad (thing), ugly, dirty” [Sasse 1982, 193].

**1776.a Nst.** \*z/žUr/r’V “to look at, examine” (?Sem.; K, IE, A). Add Eg. z3w [< \*zrw] “bewachen, hüten” (PT, Wb III 416-417) = “to guard” (FD 207), z3w.t “watch and ward” (MK, FD 208) ||| NBrb. \*z-r “voir, sehen, wahrnehmen” [GT] (Brb. data: Basset 1887, 430; Zhl. 1932-33, 99, #2; 1934, 115) ||| WCh. \*ž[i]r- “to watch” [GT]: Hausa žíràà “1. to wait for, 2. keep watch over, guard sg. for sone” [Abr. 1962, 431] | Angas žór “staring” [ALC 1978, 22]. The WCh. forms point to a var. root with \*ž-.

Lit.: Hodge 1966, 46, #81 (Eg.-Hausa).

**1804. Nst.** \*žiLV “to slip, slide” (Sem.; IE, A) = Nst. \*zilV “to creep, crawl” (?Sem.; IE, A, ?K) [IS 1965, 356]. Add Eg. z3j “to creep” (OK, FD 208).

NB: Cp. alternatively Nst. \*ž/žURU “to crawl, climb” (Brb.; K) [Dlg. 1991 MS, #1829].

**1822. Nst.** \*3apV “to hold, treat/work up with hands” (IE, A) = Nst. \*zapV “to take in hands, hold” (id.) [IS 1976, #352]. Add perhaps Eg. zp “vom Ergreifen des Hintertaus des Schiffes” (PT, Wb III 440, 19).

**1853. Nst.** \*žVh[U] “to push” (Sem.; K, ?IE). Add Eg. zhj “schlagen, wegstossen” (PT, Wb III 466-467) = “to hit, smite, beat” (FD 239) ||| WCh. \*3iq- “to push” [Stl.]: Mupun

zók “to move a bit, toss (e.g. about a baby)” [Frj. 1991, 70] | Karekare nzùkwa “to push” [Stl.] | Geji žekka [Stl. 1987] = ʒəkkà “to push” [Stl. 1995] | Ngizim ʒəgʒàžərú “to repeatedly jostle or touch” [Schuh 1981, 82] (WCh.: Stl. 1987, 189, #399) || CCh.: Mafa ʒukw- [dz-] “enforcer, piquer dans” [Brt.-Bléis 1990, 126] (Ch.: Stl. 1995, 151). Some Ch. cognates suggest a PAA var. root with initial \*ʒ-.

Lit.: for Eg.-Ar. see Albright 1927, #71; Vergote 1945, 140, #15.a.14.

\*

## Abbreviations

A & Alt.: Altaic, (A): Ahmimic, (A<sub>2</sub>): Subahmimic, AA: Afrasian (Afroasiatic, Semito-Hamitic), Amh.: Amhara/-ic, Anat.: Anatolian, Ar.: Arabic, Aram.: Aramaic, AS: Angas-Sura, assim.: assimilation, (B): Bohairic, Bch.: Bauchi, Bed.: Bedawye, BM: Bura-Margi, Brb.: Berber (Libyo-Guanche), BT: Bole-Tangale, C: Central, Ch.: Chadic, Ckc.: Chukchi, Cpt.: Coptic, CT: Coffin Texts, Cu.: Cushitic, D & Drv.: Dravidian, det.: determinative, dissim.: dissimulation, E: East, Eg.: Egyptian, El(am): Elamite, ES: Ethio-Semitic, ESA: Epigraphic South Arabian, Eth.: Ethiopian, Eth.-Sem.: Ethio-Semitic ~ Ethiopian Semitic, (F): Fayyumic, GR: Greco-Roman Period, Grg.: Gurage, GW: group-writing (or syllabic writing), Hbr.: Hebrew, Hgr.: Ahaggar, Hrs.: Harsusi, IE: Indo-European, irreg.: irregular, Jbl.: Jibbali, K & Krt.: Kartvelian, Lat.: Latin, LP: Late Period, M: Middle, Mag.: Magical Texts, Med.: Medical Texts, MK: Middle Kingdom, MSA: Modern South Arabian, N: North (in compounds), NE: New Egyptian, NK: New Kingdom, O: Old, OK: Old Kingdom, Om.: Omotic, OSA: Old South Arabian, P: Proto-, poss.: possible, reg.: regular, PT: Pyramid Texts, S: South, (S): Sahidic, Sem.: Semitic, Shr.: Shahri, Sgt.: Soqotri, Sum.: Sumerian, Syr.: Syriac, Tna.: Tigrinya, U & Ur.: Uralic, Ug.: Ugaritic, var.: variant, W: West, Wlm.: Tawllemmet.

## Abbreviations for the names of some frequently quoted authors

AF: Adolf Friedrich, AJ: Alio & Jungrauthmayr, Alb.: Albright, ALC: Angas Language Committee, Ast.: Aistleitner, Apl.: Appleyard, BK: Bieberstein Kazimirsky, Blv.: Belova, Blz.: Blažek, Bmh.: Bomhard, Bnd.: Bender, Brg.: Bargery, Brn.: Brunet, Brt.: Barreteau, Bst.: Basset, Chn.: Cohen, Clc.: Calice, Crl.: Cerulli, Dbr.-Mnt.: Djibrine & Montgolfier, Djk.: D'jakonov (Diakonoff), Dlg.: Dolgopol'skij (Dolgopolsky), Dlt.: Dallet, Dst.: Destaign, Ebs.: Ebobisse, EEN: Ehret & Elderkin & Nurse, Fcd.: Foucauld, Flk.: Foulkes, Flm.: Fleming, Frj.: Frajzyngier, GB: Gesenius & Buhl, Grb.: Greenberg, GT: Takács, Gtr.: Guthrie, Hds.: Hudson, Hfm.: Hoffmann, Ibr.: Ibrizsimow, IL: Institute of Linguistics, IS: Illič-Svityč, JI: Jungrauthmayr & Ibrizsimow, Jng.: Jungrauthmayr, Jns.: Johnstone, JS: Jungrauthmayr & Shimizu, Krf.: Kraft, Lbf.: Lebeuf, Lks.: Lukas, Lsl.: Leslau, Mch.: Mouchet, Mgw.: Maghway, Mkr.: Mukarovsky, Mlt.: Militarev, MM: Majzel' & Militarev, Mrn.: Moreno, NM: Newman & Ma, Nwm.: Newman, OS: Orel and Stolbova, PAM: Prasse & Alojaly & Mohamed, Prd.: Paradisi, Prh.: Porhomovskij, Prs.: Prasse, Rdr.: Röder, Rn.: Reinisch, Rns.: Renisio, Rpr.: Roper, Scn.: Sachnine, Skn.: Skinner, Smz.: Shimizu, Srl.: Sirlinger, Stl.: Stolbova, Sts.: Starostin, Vcl.: Vycichl, Vrg.: Vergote, Wlf.: Wölfel, WP: Weibegué & Palayer, Zbr.: Zaborski, Zhl.: Zyhlarz.

## References

- Abraham, R. C.: *Dictionary of the Hausa Language*.<sup>2</sup> London, 1962., University of London Press.
- AHW = Soden, W. von: *Akkadisches Handwörterbuch*. I-III. Wiesbaden, 1965-1981., Otto Harrassowitz.
- Aistleitner, J.: Wörterbuch der ugaritischen Sprache (WUS).= *Berichte über die Verhandlungen der Sächsischen Akademie der Wissenschaften zu Leipzig. Phil.-hist. Kl.* 106/3 (1963).
- AL I = Meeks, D.: *Année lexicographique. Égypte ancienne*. Tome 1 (1977). 2<sup>ème</sup> édition. Paris, 1998., Cybele.
- AL II = Meeks, D.: *Année lexicographique. Égypte ancienne*. Tome 2 (1978). 2<sup>ème</sup> édition. Paris, 1998., Cybele.
- AL III = Meeks, D.: *Année lexicographique. Égypte ancienne*. Tome 3 (1979). 2<sup>ème</sup> édition. Paris, 1998., Cybele.
- Albright, W. F.: Notes on Egypto-Semitic Etymology. II.= *American Journal of Semitic Languages and Literatures* 34/4 (1918), 215-255.
- Albright, W. F.: Notes on Assyrian Lexicography and Etymology.= *Revue d'Assyriologie* 16/4 (1919), 173-194.
- Albright, W. F.: Notes on Egypto-Semitic Etymology. III.= *Journal of the American Oriental Society* 47 (1927), 198-237.
- ALC 1978 = Angas Language Committee (in Cooperation with Nigeria Bible Translation Trust): *Shək nkarɛ kè shéktok mwa ndón Ngas. Ngas-Hausa-English Dictionary with Appendix Showing Some Features of Ngas Grammar*. Jos, Nigeria, 1978., Nigerian Bible Translation Trust.
- Alio, Kh. & Jungraithmayr, H.: *Lexique bidiya*. Frankfurt am Main, 1989., Vittorio Klostermann.
- Appleyard, D.: A Comparative Approach to the Amharic Lexicon.= *Afroasiatic Linguistics* 5/2 (1977).
- Appleyard, D.: The Internal Classification of the Agaw Languages. A Comparative and Historical Phonology.= Bynon, J. (ed.): *Current Progress in Afro-Asiatic Linguistics*. Amsterdam, Philadelphia, 1984., John Benjamins. Pp. 33-67.
- Appleyard, D.: The Vowel Systems of Agaw: Reconstruction and Historical Inferences.= Mukarovsky, H. G. (ed.): *Proceedings of the Fifth International Hamito-Semitic Congress*. Band II. Wien, 1991., Afro-Pub. Pp. 13-28.
- Aquilina, J.: The Berber Element in Maltese.= Bynon, J. & Bynon, Th. (eds.): *Hamito-Semitic*. The Hague, 1975., Mouton. Pp. 297-313.
- Bargery, G. P.: *A Hausa-English Dictionary and English-Hausa Vocabulary Compiled for the Government of Nigeria*. London, 1934., Oxford University Press, Humphrey Milford.
- Barreteau, D. & Bléis, Y.: *Lexique mafa. Langue de la famille tchadique parlée au Cameroun*. Paris, 1990., ORSTOM, Librairie Orientaliste Paul Geuthner.
- Barreteau, D. & Brunet, A.: *Dictionnaire mada*. Berlin, 2000., Dietrich Reimer Verlag.
- Basset, R.: Notes de lexicographie berbère.= *Journal Asiatique*. Ser. VIII, vol. 1/3 (1883), 281-342.
- Basset, M. R.: Notes de lexicographie berbère.= *Journal Asiatique*. Ser. VIII, vol. 5 (1885), 148-198.

- Basset, M. R.: Notes de lexicographie berbère.= *Journal Asiatique*. Ser. VIII, vol. 10 (1887), 365-464.
- Behnk, F.: Lexikalische Beiträge zur ägyptisch-semitischen Sprachvergleichung.= *Zeitschrift für Ägyptische Sprache* 62 (1927), 80-83.
- Behnk, F.: Über die Beziehungen des Ägyptischen zu den hamitischen Sprachen.= *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 82 (1928), 136-141.
- Belova, A. G.: *Sur la reconstruction du vocalisme afroasiatique: quelques correspondances égypto-sémitiques*. MS. Paper presented at the Fifth International Hamito-Semitic Congress, Vienna, 1987. 12 p.
- Belova, A. G.: Struktura kornja v drevneegipetskom i semitskih jazykah.= *Problemy języków Azji i Afryki*. Warszawa, 1987., Wydawnictwo Polskiej Akademii Nauk. Pp. 275-282.
- Belova, A. G.: Refleksy semitskih sibiljantov v drevneegipetskom.= *Meroé* 4 (1989), 9-21.
- Belova, A. G.: *Sur la reconstruction du vocalisme afroasiatique: quelques correspondances égypto-sémitiques*.= Mukarovsky, H. G. (ed.): *Proceedings of the Fifth International Hamito-Semitic Congress*. Band II. Wien, 1991., Afro-Pub. Pp. 85-93.
- Belova, A. G.: Struktura semitskogo kornja i semitskaja morfologičeskaja sistema.= *Voprosy Jazykoznanija* 1 (1991), 79-90.
- Belova, A. G.: Recenzija na Ehret, Ch.: Origin of the Third Consonants in Semitic Roots: An Internal Reconstruction Applied to Arabic.= *Voprosy Jazykoznanija* 3 (1992), 135-139.
- Belova, A. G.: K voprosu o rekonstrukcii semitskogo kornevogo vokalizma.= *Voprosy Jazykoznanija* 6 (1993), 28-56.
- Bender, M. L.: Aroid (South Omotic) Lexicon.= *Afrikanistische Arbeitspapiere* 38 (1994), 133-162.
- Bieberstein Kazimirsky, A. de: *Dictionnaire arabe-français*. I-II. Paris, 1860., Maisonneuve et C<sup>ie</sup>.
- Birru, T. & Adal, Z. & Cowley, R. W.: The Kurfäl People and Their Language.= *Journal of Ethiopian Studies* 9/2 (1971), 99-106.
- Black, P. D.: *Lowland East Cushitic: Subgrouping and Reconstruction*. Ph.D. dissertation. 1974., Yale University.
- Blažek, V.: Lexica Nostratica. Addenda et Corrigenda I.= *Archív Orientální* 57 (1989), 201-210.
- Blažek, V.: *Omotic Lexicon in Afroasiatic Perspective: Body Parts Cognates*. MS. Paper presented at the II. International Symposium on Cushitic and Omotic Languages (Torino, November 1989). 41 p.
- Blažek, V.: Lexica Nostratica. Addenda et Corrigenda II.= *Archív Orientální* 58 (1990), 205-218.
- Blažek, V.: K typologii pojmenování "člověka" v indoevropských jazycích (v nostratickém kontextu).= *Slavia* 59/3 (1990), 262-270.
- Blažek, V.: Kartvelian Material in Nostratic Lexicon.= *Archív Orientální* 59 (1991), 360-369.
- Blažek, V.: Basque and North Caucasian or Afroasiatic? = Ebermann, E. & Sommerauer, E. R. & Thomanek, K. É. (eds.): *Komparative Afrikanistik: Sprach-, geschichts-*

- und literaturwissenschaftliche Aufsätze zu Ehren von Hans G. Mukarovsky anlässlich seines 70. Geburtstags. Wien, 1992., Afro-Pub. Pp. 21-30.
- Blažek, V.: *Elam: A Bridge between Ancient Near East and Dravidian India?* MS. Paper presented at the 3<sup>rd</sup> World Archaeological Congress, New Delhi, Dec. 1994. 26 p.
- Blažek, V.: *Towards the Position of Bed'awye within Afroasiatic (an Analysis of the Body Parts Terminology)*. MS. Köln, March 1994. 49 p.
- Blažek, V.: Review of Baldi, Ph. (ed.): *Linguistic Change and Reconstruction Methodology*. = *Archív Orientální* 62/1 (1994), 99-103.
- Blažek, V. & Tosco, M.: *Between South and East Cushitic: Reconsidering the Position of Dahalo*. MS. Handout for the XI. Afrikanistentag, Köln, 19-21 September 1994. 6 p.
- Blažek, V.: *Elam: A Bridge Between Ancient Near East and Dravidian India?* = Blench, R. M. & Spriggs, M. (eds.): *Archaeology and Language IV. Language Change and Cultural Transformation*. London & New York, 1999., Routledge, Taylor & Francis Group. Pp. 48-78.
- Boisson, C.: *Sumerian/Nostratic/Sino-Caucasian Isoglosses*. Version 3.16, 5 November 1989. MS. Lyon, 1989. 74 p.
- Bomhard, A. R.: *Common Indo-European/Afroasiatic Roots*. Supplement 1. = *General Linguistics* 26 (1986), 225-257.
- Bomhard, A. R.: *Rekonstrukcija prasemitskoj sistemy soglasnyh*. = *Voprosy Jazykoznanija* 5 (1988), 50-65.
- Bomhard, A. R.: *A Sample of the Comparative Vocabulary of the Nostratic Languages*. MS. Revised Version. 1990. 610 p.
- Boyd, R.: *Étude comparative dans le groupe adamawa*. Paris, 1974., Société d'Études Linguistiques et Anthropologiques de France & Centre National de la Recherche Scientifique.
- Calice, F. von: *Grundlagen der ägyptisch-semitischen Wortvergleichung*. Wien, 1936., Selbstverlag des Orientalischen Institutes der Universität Wien.
- CED = Černý, J.: *Coptic Etymological Dictionary*. London, Cambridge, 1976., Cambridge University Press.
- Cerulli, E.: *Studi etiopici. I. La lingua e la storia di Harar*. Roma, 1936., Istituto per l'Oriente.
- Cerulli, E.: *Studi etiopici. II. La lingua e la storia dei Sidamo*. Roma, 1938., Istituto per l'Oriente.
- Cerulli, E.: *Studi etiopici. III. Il linguaggio dei Gangerò ed alcune lingue Sidama dell'Omo (Basketo, Ciara, Zaissè)*. Roma, 1938., Istituto per l'Oriente.
- Cerulli, E.: *Studi etiopici. IV. La lingua caffina*. Roma, 1951., Istituto per l'Oriente.
- Cohen, M.: *Essai comparatif sur le vocabulaire et la phonétique du chamito-sémitique*. Paris, 1947., Librairie Ancienne Honore Champion.
- Conti, G.: *Studi sul bilinguismo in semitico e in egiziano. 1. Il tema verbale N1212*. Firenze, 1980., Istituto Linguistica e di Lingue Orientali.
- Dallet, J.-M.: *Dictionnaire qabyle-français. Parler des At Mangellat (Algerie)*. Paris, 1982., SELAF (Société d'études linguistiques et anthropologiques de France).
- Deines, H. & Grapow, H.: *Wörterbuch der ägyptischen Drogennamen*. Berlin, 1959., Akademie-Verlag.

- Destaing, E.: *Vocabulaire français-berbère (tachel-it du Soûs)*. Paris, 1938., Éditions Ernest Leroux.
- D'jakonov, I. M.: *Semitohamitskie jazyki. Opyt klassifikacii*. Moskva, 1965., Nauka.
- Diakonoff, I. M.: Problems of Root Structure in Proto-Semitic.= *Archív Orientální* 38 (1970), 453-480.
- D'jakonov, I. M.: Lingvističeskie dannye k istorii drevnejših nositelej afrazijskih jazykov.= *Africana. Afrikaniskij étnografičeskij sbornik* 10 (1975), 117-130.
- D'jakonov, I. M. & Porhomovskij, V. Ja.: O principah afrazijskoj rekonstrukcii (v svjazi s rabotoj nad sravnitel'no-istoričeskim slovarom).= *Balkanica. Lingvističeskie issledovanija*. Moskva, 1979., Nauka. Pp. 72-84.
- Diakonoff, I. M.: Earliest Semites in Asia. Agriculture and Animal Husbandry According to Linguistic Data (VIIIth-IVth Millennia B.C.).= *Altorientalische Forschungen* 8 (1981), 23-74.
- Diakonoff, I. M.: Letter to the Conference.= Bynon, J. (ed.): *Current Progress in Afro-Asiatic Linguistics*. Amsterdam, 1984., John Benjamins. Pp. 1-10.
- D'jakonov, I. M.: Obščefrazijskie imennye kategorii.= *Pis'mennye pamjatniki i problemy istorii kul'tury narodov Vostoka. XIX godičnaja naučnaja sessija LO IV AN SSSR*. Moskva, 1986., Nauka. Pp. 47-62.
- Diakonoff, I. M. (with assistance by Militarev, A. Ju. & Stolbova, O. V.): *Proto-Afrasian and Old Akkadian*. MS. Leningrad, ab. 1986. Recently published in the *Journal of Afroasiatic Languages* 4/1 (1992).
- D'jakonov, I. M. & Militarev, A. Ju. & Porhomovskij, V. Ja. & Stolbova, O. V.: Obščefrazijskaja fonologičeskaja sistema.= Porhomovskij, V. Ja. (ed.): *Afrikanское istoričeskoe jazykoznanie. Problemy rekonstrukcii*. Moskva, 1987., Nauka. Pp. 9-29.
- Diakonoff, I. M.: *Afrasian Languages*. Moscow, 1988., Nauka.
- Diakonoff, I. M. & Militarev, A. Ju. & Porhomovskij, V. Ja. & Stolbova, O. V.: On the Principles of Afrasian Phonological Reconstruction.= *St. Petersburg Journal of African Studies* 1 (1993), 7-15.
- Djibrine, B. A. Z. & Montgolfier, P. de (etc.): *Vocabulaire dangaléat. Kawo dayla*. (Place not indicated), 1973., (publisher not indicated).
- DLE = Lesko, L. H.: *A Dictionary of Late Egyptian*. I-IV. Berkeley, 1982-1989., B.C. Scribe Publications.
- Dolgopolskij, A. B.: Materialy po sravnitel'no-istoričeskoj fonetike kušitskih jazykov. Gubnye i dental'nye smyčnye v načal'nom položenii.= *Jazyki Afriki. Voprosy struktury, istorii i tipologii*. Moskva, 1966., Nauka. Pp. 35-88.
- Dolgopolskij, A. B.: Struktura semitohamitskogo kornja v sravnitel'no-istoričeskom osveščanii.= *Problemy jazykoznanija*. Moskva, 1967., Nauka. Pp. 278-282.
- Dolgopolskij, A. B.: Materialy po sravnitel'no-istoričeskoj fonetike kušitskih jazykov. Veljarnyj zvonkij v anlaute.= Ohotina, N. V. & Uspenskij, B. A. (eds.): *Problemy afrikanского jazykoznanija. Tipologija, komparativistika, opisanie jazykov*. Moskva, 1972., Nauka. Pp. 197-216.
- Dolgopolskij, A. B.: *Sravnitel'no-istoričeskaja fonetika kušitskih jazykov*. Moskva, 1973., Nauka.
- Dolgopolskij, A. B. & Dybo, V. A. & Zaliznjak, A. A.: Vklad V. M. Illič-Svityča v sravnitel'no-istoričeskiju grammatiku indoevropejskih i nostratičeskikh jazykov.= *Sovetskoe Slavjanovedenie* 5 (1973), 82-91.



- Dolgopolsky, A. B.: Semitic and East Cushitic. Sound Correspondences and Cognate Sets.= Segert, S. & Bodrogligeti, A. J. E. (eds.): *Ethiopian Studies Dedicated to Wolf Leslau*. Wiesbaden, 1983., Otto Harrassowitz. Pp. 123-142.
- Dolgopolsky, A. B.: *Semitic and East Cushitic: Initial Laryngeals*. MS. Haifa, 1987. 3 p.
- Dolgopolsky, A. B.: South Cushitic Lateral Consonants as Compared to Semitic and East Cushitic.= Jungraithmayr, H. & Müller, W. W. (eds.): *Proceedings of the Fourth International Hamito-Semitic Congress*. Amsterdam, 1987., John Benjamins. Pp. 195-214.
- Dolgopolsky, A. B.: On Chadic Correspondences of Semitic \*š.= Mukarovsky, H. G. (ed.): *Proceedings of the Fifth International Hamito-Semitic Congress*. Band I. Wien, 1990., Afro-Pub. Pp. 213-225.
- Dolgopolsky, A. B.: *List of Nostratic Roots (5 December 1991)*. MS. Haifa, 1991. 36 p.
- Dolgopolsky, A. B.: *External Relations of Afroasiatic*. MS. Paper presented at the 3rd World Archaeological Congress, New Delhi, December 1994. 5 p.
- Dolgopolsky, A. B.: *Hamito-Semitic Etymologies*. MSA. Paper presented at the 6<sup>th</sup> International Hamito-Semitic Congress in Moscow, April 1994. 1 p.
- DRB I = Naït-Zerrad, K.: *Dictionnaire des racines berbères (formes attestées)*. I: a-b'zł. Paris, Louvain, 1998., Peeters.
- DRS = Cohen, D.: *Dictionnaire des racines sémitiques ou attestées dans les langues sémitiques*. Fascicules 1-2: "-GLD (Paris, La Haye, 1970., Mouton). Fascicule 3: GLD-DHML/R (Leuven, 1993., Peeters). Fascicule 4: DHMM-DRR (Leuven, 1993., Peeters). Fascicule 5: H-HTT (Leuven, 1993., Peeters). Etc. With continuous pagination.
- Ebobisse, C.: *Die Morphologie des Verbs im Ost-Dangaleat (Guera, Tschad)*. Berlin, 1979., Dietrich Reimer Verlag.
- Ebobisse, C.: *Les verbaux du dangaléat de l'est (Guera, Tchad)*. *Lexiques français-dangaléat et allemand-dangaléat*. Berlin, 1987., Dietrich Reimer Verlag.
- Ehret, Ch.: *Ethiopians and East Africans. The Problem of Contacts*. Nairobi, 1974., East African Publishing House.
- Ehret, Ch.: *The Historical Reconstruction of Southern Cushitic Phonology and Vocabulary*. Berlin, 1980., Dietrich Reimer Verlag.
- Ehret, Ch.: Proto-Cushitic Reconstruction.= *Sprache und Geschichte in Afrika* 8 (1987).
- Ehret, Ch. & Elderkin, E. D. & Nurse, D.: Dahalo Lexis and Its Sources.= *Afrikanistische Arbeitspapiere* 18 (1989), 5-49.
- Ember, A.: Notes on the Relation of Egyptian and Semitic.= *Zeitschrift für Ägyptische Sprache* 50 (1912), 86-90.
- Ember, A.: Semito-Egyptian Words. New Series.= *Zeitschrift für Ägyptische Sprache* 51 (1913), 110-121.
- Ember, A.: Egyptian ḥw "To Proclaim, Announce" = Hebrew ḥiwwā, Ar. waḥā. = *Orientalistische Literaturzeitung* 17 (1914), 6-7.
- Ember, A.: Several Semito-Egyptian Particles.= *Zeitschrift für Assyriologie* 28/2-4 (1914), 302-306.
- Ember, A.: *Egypto-Semitic Studies*. Leipzig, 1930., The Alexander Cohut Memorial Foundation.
- Erman, A.: Das Verhältnis des Ägyptischen zu den semitischen Sprachen.= *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 46 (1892), 93-129.
- Faulkner, R. O.: *The Ancient Egyptian Pyramid Texts*. I. Oxford, 1969., Clarendon Press.



- FD = Faulkner, R. O.: *A Concise Dictionary of Middle Egyptian*. Oxford, 1962., Clarendon Press.
- Fleming, H. C.: Proto-South-Omotic or Proto-Somotic Consonant Phonemes: Stage One.= Bechhaus-Gerst, M. & Serzisko, F. (eds.): *Cushitic-Omotic. Papers from the International Symposium on Cushitic and Omotic Languages, Cologne, January 6-9, 1986*. Hamburg, 1988., Helmut Buske Verlag. Pp. 163-175.
- Fleming, H.: Omotica, Afrasiana and More: Ethiopia as the Ever-Flowing Vase.= *Mother Tongue* 12 (1990), 22-30.
- Foucauld, Ch. de: *Dictionnaire touareg-français, dialecte de l'Ahaggar*. Vol. I-IV. Paris, 1951-1952., Imprimerie Nationale de France.
- Foulkes, H. D.: *Angass Manual. Grammar, Vocabulary*. London, 1915., Kegan Paul, Trench, Trübner and Co.
- Frajzyngier, Z.: *A Dictionary of Mupun*. Berlin, 1991., Dietrich Reimer Verlag.
- Gardiner, A. H.: *Egyptian Grammar*.<sup>1</sup> Oxford, 1927., Clarendon Press.
- Gardiner, A. H.: *Egyptian Grammar*.<sup>3</sup> London, 1957., Oxford University Press.
- GB = Gesenius, W. (bearbeitet von Buhl, F.): *Hebräisches und aramäisches Handwörterbuch über das Alte Testament. Unveränderter Neudruck der 1915 erschienenen 17. Auflage*. Berlin, Göttingen, Heidelberg, 1962., Springer-Verlag.
- Gerhardt, L.: Proto-Benue-Congo und Kagoma.= *Afrika und Übersee* 57 (1973), 81-93.
- GHwB = Hannig, R.: *Grosses Handwörterbuch Ägyptisch-Deutsch (2800-950 v. Chr.)*. Mainz, 1995., Verlag Philipp von Zabern.
- Gluhak, A.: Nostratica. 1. Etruscan Optative-Jussive. 2. Hittite akk- "to die".= *Revue Roumaine de Linguistique* 25/3 (1980), 261-263.
- Gochal, G.: *A Look at Shik Ngas*. Jos, 1994., Jos University Press.
- Gouffé, C.: Contacts de vocabulaire entre le haoussa et le touareg.= Cohen, D. (ed.): *Actes du Premier Congrès International de Linguistique Sémitique et Chamito-Sémitique, Paris, 16-19 juillet 1969*. Paris, 1974., Mouton. Pp. 357-380.
- Gragg, G.: *Oromo Dictionary*. East Lansing, Michigan, 1982., Michigan State University.
- Greenberg, J. H.: The Languages of Africa.= *International Journal of American Linguistics* 29 (1963).
- Gregersen, E. A.: Consonant Polarity in Nilotic.= *Third Annual Conference on African Linguistics, Bloomington, 7-8 April 1972*. Bloomington, 1972., Indiana University. Pp. 105-109.
- Guthrie, M.: *Comparative Bantu. An Introduction to the Comparative Linguistics and Prehistory of the Bantu Languages. Part I. Vol. 2. Bantu Prehistory, Inventory and Indexes*. Westmead, Farnborough, Hants, 1971., Gregg International Publishers.
- HCVA 1 = Diakonoff, I. M.; Belova, A. G.; Militarev, A. Ju.; Porhomovskij, V. Ja.; Stolbova, O. V.: *Historical Comparative Vocabulary of Afrasian. Part 1*.= *St. Petersburg Journal of African Studies* 2 (1993), 5-28.
- HCVA 2 = Diakonoff, I. M. & Belova, A. G. & Militarev, A. Ju. & Porhomovskij, V. Ja.: *Historical Comparative Vocabulary of Afrasian*.= *St. Petersburg Journal of African Studies* 3 (1994), 5-26.
- Heine, B.: The Sam Languages. A History of Rendille, Boni and Somali.= *Afroasiatic Linguistics* 6/2 (1978), 23-115.

- Hintze, F.: Zur hamitosemitischen Wortvergleichung.= *Zeitschrift für Phonetik und Allgemeine Sprachwissenschaft* 5 (1951), 65-87.
- Hodge, C. T.: Hausa-Egyptian Establishment.= *Anthropological Linguistics* 8/1 (1966), 40-57.
- Hodge, C. T.: Some Afroasiatic Etymologies.= *Anthropological Linguistics* 10/3 (1968), 19-29.
- Hodge, C. T.: Comparative Evidence for Egyptian Phonology.= Young, Dw. W. (ed.): *Studies Presented to Hans Jakob Polotsky*. East Gloucester, 1981., Pirtle & Polson. Pp. 401-413.
- Hodge, C. T.: The Role of Egyptian within Afroasiatic.= Baldi, Ph. (ed.): *Linguistic Change and Reconstruction Methodology*. Berlin, New York, 1990., Mouton. Pp. 639-659.
- Hoffmann, C.: Zur Sprache der Cibak.= Lukas, J. (ed.): *Afrikanistische Studien*. Berlin, 1955., Akademie-Verlag. Pp. 118-143.
- Hoffmann, C. F.: Were There Labial Alveolars and Labial Palatals in Proto-Bura-Margi? = Jungraithmayr, H. & Müller, W. W. (eds.): *Proceedings of the Fourth International Hamito-Semitic Congress*. Amsterdam, 1987., John Benjamins. Pp. 451-474.
- HSED = Orel, V. É. & Stolbova, O. V.: *Hamito-Semitic Etymological Dictionary*. Leiden, 1995., E. J. Brill.
- Hudson, G.: *Highland East Cushitic Dictionary*. Hamburg, 1989., Buske.
- Illič-Svityč, V. M.: Materialy k sravnitel'nomu slovarju nostratičeskikh jazykov.= *Étimologija* (1965), 321-373.
- Illič-Svityč, V. M.: Iz istorii čadskogo konsonantizma. Labial'nye smyčnye. = Uspenskij, B. A. (ed.): *Jazyki Afriki. Voprosy struktury, istorii i tipologii*. Moskva, 1966., Nauka. Pp. 9-34.
- Illič-Svityč, V. M.: *Opyt sravnenija nostratičeskikh jazykov. Vvedenie. Sravnitel'nyj slovar' (b-)*. Moskva, 1971., Nauka.
- Illič-Svityč, V. M.: *Opyt sravnenija nostratičeskikh jazykov. Sravnitel'nyj slovar' (l-ž)*. Ukazateli. Moskva, 1976., Nauka.
- Johnstone, T. M.: *Ĥarsūsi Lexicon*. London, 1977., Oxford University Press.
- Johnstone, T. M.: *Jibbāli Lexicon*. London, 1981., Oxford University Press.
- Johnstone, T. M.: *Mehri Lexicon*. London, 1987., University of London.
- Jungraithmayr, H.: *Wörterbuch der Angas-Sprache*. MS. 1962.
- Jungraithmayr, H.: *Die Ron-Sprachen. Tschadohamitische Studien in Nordnigerien*. Glückstadt, 1970., Verlag J. J. Augustin.
- Jungraithmayr, H.: Das Verb im Mokulu und das alttschadohamitische Aspektsystem.= Möhling, W. J. G. & Rottland, F. & Heine, B. (eds.): *Zur Sprachgeschichte und Ethnohistorie in Afrika. Neue Beiträge afrikanistischer Forschungen*. Berlin, 1977., Dietrich Reimer Verlag. Pp. 81-90.
- Jungraithmayr, H.: *Lexique mokilko*. Berlin, 1990., Dietrich Reimer Verlag.
- Jungraithmayr, H. & Ibrizimow, D.: *Sur les langues sarwa, gadang et miltu (Groupe sibine/sumray)*. MS. Paper presented at the meeting of Groupe d'Études Tschadiques (Paris, 1993).
- KHW = Westendorf, W.: *Koptisches Handwörterbuch*. Heidelberg, 1977., Carl Winter Universitätsverlag.

- Klimov, G. A.: *Étymologičeskij slovar' kartvel'skih jazykov*. Moskva, 1964., Nauka.
- Kločkov, I. S. & Palmajtis, L.: Dva zamečanja k slovarju V. M. Illič-Svityča.= *Konferencija "Nostratičeskie jazyki i nostratičeskoe jazykoznanie". Tezisy dokladov*. Moskva, 1977., Institut Slavjanovedenija i Balkanistiki. Pp. 72-73.
- Kraft, Ch. H.: *Chadic Wordlists. I-III*. Berlin, 1981., Dietrich Reimer Verlag.
- Lebeuf, J.-P.: Vocabulaires kotoko: Makari, Goulfeil, Kousseri, Afadé.= *Bulletin de l'Institut Français d'Afrique Noire* 4 (1942), 160-174.
- Leslau, W.: *Lexique soqotri (sudarabique moderne), avec comparaisons et explications étymologiques*. Paris, 1938., Librairie C. Klincksieck.
- Leslau, W.: Semitic and Egyptian Comparisons.= *Journal of Near Eastern Studies* 21 (1962), 44-49.
- Leslau, W.: Proto-Sidamo \*z.= *Afrika und Übersee* 53 (1980), 119-129.
- Leslau, W.: Analysis of the Ge'ez Vocabulary: Ge'ez and Cushitic.= *Rassegna di Studi Etiopici* 32 (1988), 59-109.
- Leslau, W.: Observations on Sasse's Vocabulary of Burji.= *Afrika und Übersee* 71 (1988), 177-203.
- Leslau, W.: Analysis of the Ge'ez Vocabulary: Ge'ez and Cushitic.= *Rassegna di Studi Etiopici* 32 (1988), 59-109.
- Lukas, J.: Zentralsudanische Studien.= *Abhandlungen aus dem Gebiet der Auslandskunde. Hansische Universität. Reihe B, Band 45, Band 24* (1937).
- Lukas, J.: Die Sprache des Buduma in Zentralen Sudan.= *Abhandlungen für die Kunde des Morgenlandes* 24/2 (1939).
- Maghway, J. B.: Iraqw Vocabulary.= *Afrikanistische Arbeitspapiere* 18 (1989), 91-118.
- Majzel', S. S. (edited and additions by Militarev, A. Ju.): *Puti razvitija kornevogo fonda semitskih jazykov*. Moskva, 1983., Nauka.
- Militarev, A. Ju.: *Ob odnom obščefrazijskom zemledel'českom termine*.= *Vestnik Drevnej Istorii* 4 (1983), 97-106.
- Militarev, A. Ju.: Sovremennoe sravnitel'no-istoričeskoe afrazijskoe jazykoznanie: čto ono možet dat' istoričeskoj nauke?=*Lingvističeskaja rekonstrukcija i drevnejšaja istorija Vostoka. Čast' 3*. Moskva, 1984., Nauka. Pp. 3-26.
- Militarev, A. Ju.: Jazyk meroitskoj épigrafiki kak istoričeskij istočnik v svete ego genezisa.= *Vestnik Drevnej Istorii* 2 (1984), 153-170.
- Militarev, A. Ju.: *Afrasian Etymologies*. MS. Moscow, about 1987.
- Militarev, A. Ju. & Stolbova, O. V.: First Approach to Comparative-Historical Phonology of Afrasian (Consonantism).= Mukarovsky, H. G. (ed.): *Proceedings of the Fifth International Hamito-Semitic Congress*. Band I. Wien, 1990., Afro-Pub. Pp. 45-72.
- Militarev, A. Ju.: Istoričeskaja fonetika i leksika livijsko-guančskih jazykov.= Solncev, V. M. (ed.): *Jazyki Azii i Afriki*. IV, kn. 2. Moskva, 1991., Glavnaja Redakcija Vostočnoj Literatury. Pp. 238-267.
- Militarev, A. Ju.: Livijsko-guančskie jazyki. I. Obščie svedenija.= Solncev, V. M. (ed.): *Jazyki Azii i Afriki*. IV, kn. 2. Moskva, 1991., Glavnaja Redakcija Vostočnoj Literatury. Pp. 148-162.
- Militarev, A. Ju.: Glazami lingvista: Garamantida v kontekste severo-afrikanской istorii (vmesto posleslovija).= Kobiščanov, Ju. M. & Militarev, A. Ju. (eds.):

- Garamantida (afrikanskaja Atlantida)*. Moskva, 1994., Izdatel'skaja Firma "Vostochnaja Literatura" RAN. Pp. 230-282.
- Moreno, M. M.: *Manuale di sidamo. Grammatica, esercizi, testi, glossario*. Roma, 1940., Casa Editrice A. Mondadori.
- Moscatti, S.: Il Biconsonantismo nelle Lingue Semitiche.= *Biblica* 28 (1947), 113-135.
- Moscatti, S. & Spitaler, A. & Ullendorf, E. & Soden, W.: *An Introduction to the Comparativ Grammar of the Semitic Languages. Phonology and Morphology*. Wiesbaden, 1964., Otto Harrassowitz.
- Mouchet, J.: Vocabulaires comparatifs de quinze parlers du Nord-Cameroun.= *Bulletin de la Société d'Études Camerounaises* 29-30 (1950), 5-74.
- Mukarovsky, H. G.: Zur Stellung der Mandesprachen.= *Anthropos* 61 (1966), 679-688.
- Mukarovsky, H. G.: *Mande-Chadic Common Stock*. Wien, 1987., Afro-Pub.
- Müller, W. W.: Beiträge zur hamito-semitischen Wortvergleichung.= Bynon, J. & Bynon, Th. (eds.): *Hamito-Semitic*. The Hague, 1975., Mouton. Pp. 63-74.
- Newman, P.: A Word List of Tera.= *Journal of West African Languages* 1/2 (1964), 33-50.
- Newman, P.: Chadic Classification and Reconstructions.= *Afroasiatic Linguistics* 5/1 (1977), 1-42.
- Newman, P. & Ma, R.: Comparative Chadic: Phonology and Lexicon.= *Journal of African Languages* 5/3 (1966), 218-251.
- Orel, V. É. & Stolbova, O. V.: K rekonstrukcii praafrazijskogo vokalizma. 1-2.= *Voprosy Jazykoznanija* 5 (1988), 66-83.
- Orel, V. É. & Stolbova, O. V.: Čadsko-egipetskie izoglossy v oblasti kul'turnoj leksiki.= *Lingvističeskaja rekonstrukcija i drevnejšaja istorija Vostoka*. Čast' 1. Moskva, 1989., Nauka. Pp. 131-136.
- Orel, V. É. & Stolbova, O. V.: K rekonstrukcii praafrazijskogo vokalizma. 3-4.= *Voprosy Jazykoznanija* 2 (1990), 75-90.
- Orel, V. É. & Stolbova, O. V.: Cushitic, Chadic, and Egyptian: Lexical Relations.= Shevoroshkin, V. (ed.): *Nostratic, Dene-Caucasian, Austric and Amerind*. Bochum, 1992., Brockmeyer. Pp. 167-180.
- Orel, V. É.: Semitohamitskij, sinokavkazskij, nostratičeskij.= *Moskovskij Lingvističeskij Žurnal* 1 (1995), 99-116.
- Ormsby, G.: Notes on the Angass Language.= *Journal of the Royal African Society* 12 (1913), 421-424 & 13 (1914), 54-61, 204-210, 313-315.
- Osing, J.: *Die Nominalbildung des Ägyptischen*. I-II. Mainz/Rhein, 1976., Philipp von Zabern.
- Paradisi, U.: Il berbero di Augila. Materiale lessicale.= *Rivista degli Studi Orientali* 35/3-4 (1960), 157-177.
- Prasse, K.-G.: A propos de l'origine de h Touareg (Tahaggart).= *Det Kongelige Danske Videnskabernes Selskab, historisk-filosofiske meddelelser* 43/3 (1969).
- Prasse, K.-G. & Alojaly, Gh. & Mohamed, Gh.: *Lexique touareg-français*. Copenhagen, 1998., Museum Tusculanum Press, Université de Copenhagen.
- Rabin, Ch.: Lexicostatistics and the Internal Divisions of Semitic.= Bynon, J. & Bynon, Th. (eds.): *Hamito-Semitic*. The Hague, 1975., Mouton. Pp. 85-102.
- Reinisch, L.: *Der einheitliche Ursprung der Sprachen der Alten Welt*. Wien, 1873., Wilhelm Braumüller Universitätsverlag.

- Reinisch, L.: Die ᵀAfar-Sprache. II.= *Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften. Phil.-hist. Classe* 113/2 (1886), 795-916.
- Reinisch, L.: *Wörterbuch der Bilin-Sprache*. Wien, 1887., Alfred Hoelder.
- Reinisch, L.: *Wörterbuch der Saho-Sprache*. Wien, 1890., Alfred Hölder.
- Reinisch, L.: *Wörterbuch der Bedawye-Sprache*. Wien, 1895., Alfred Hölder Verlag.
- Renisio, A.: *Étude sur les dialectes berbères des Beni Iznassen, du Rif et des Senhaja de Sraïr. Grammaire, textes et lexique*. Paris, 1932., Éditions Ernest Leroux.
- Roper, E.-M.: *Tu Bedawie. An Elementary Handbook for the Use of Sudan Government Officials*. Hertford, 1928., Stephen Austin & Sons.
- Rössler, O.: Libysch-Hamitisch-Semitisch.= *Oriens* 17 (1964), 199-216.
- Sasse, H.-J.: Weiteres zu den ostkuschitischen Sibilanten.= *Afrika und Übersee* 59 (1976), 125-142.
- Sasse, H.-J.: The Consonant Phonemes of Proto-East-Cushitic (PEC).= *Afroasiatic Linguistics* 7/1 (1979).
- Sasse, H.-J.: *An Etymological Dictionary of Burji*. Hamburg, 1982., Buske.
- Schuh, R. G.: *A Dictionary of Ngizim*. Berkeley, California, 1981., University of California.
- Schuh, R. G.: West Chadic Vowel Correspondences.= Bynon, J. (ed.): *Current Progress in Afroasiatic Linguistics*. Amsterdam, 1984., John Benjamins. Pp. 206-223.
- Shimizu, K.: The Southern Bauchi Group of Chadic Languages. A Survey Report.= *Africana Marburgensia. Special Issue* 2 (1978), 1-50.
- Shimizu, K.: Mumuye-protowestnigritische Lautentsprechungen und ihre Bedeutung für die Rekonstruktion des protonigritischen Ur-Lautsystems.= *Afrika und Übersee* 64 (1981), 3-23.
- Sirlinger, E.: *Dictionary of the Goemay Language*. Jos, Nigeria, 1937., Prefecture Apostolic of Jos.
- SISAJa I = D'jakonov, I. M.; Belova, A. G.; Četveruhin, S. A.; Militarev, A. Ju.; Porhomovskij, V. Ja.; Stolbova, O. V.: *Sravnitel'no-istoričeskij slovar' afrazijskich jazykov*. Vypusk 1. p-ᵀ-b-f.= *Pis'mennye pamjatniki i problemy istorii kul'tury narodov Vostoka. XV godičnaja naučnaja sessija LO IV AN SSSR*. Moskva, 1981., Nauka. Pp. 3-127.
- SISAJa II = D'jakonov, I. M.; Belova, A. G.; Militarev, A. Ju.; Porhomovskij, V. Ja.; Stolbova, O. V.: *Sravnitel'no-istoričeskij slovar' afrazijskich jazykov*. Vypusk 2. t-ᵀ-d.= *Pis'mennye pamjatniki i problemy istorii kul'tury narodov Vostoka. XVI godičnaja naučnaja sessija Leningradskogo Otdelenija Instituta Vostokovedenija Akademii Nauk SSSR*. Moskva, 1982., Nauka. Pp. 3-93.
- SISAJa III = D'jakonov, I. M.; Belova, A. G.; Militarev, A. Ju.; Porhomovskij, V. Ja.; Stolbova, O. V.: *Sravnitel'no-istoričeskij slovar' afrazijskich jazykov*. Vypusk 3. s-c-ᵀ-ᵀ, ᵀ-ᵀ-ᵀ, ᵀ-ᵀ-ᵀ s labial'nymi.= *Pis'mennye pamjatniki i problemy istorii kul'tury narodov Vostoka. XIX godičnaja naučnaja sessija LO IV AN SSSR*. Moskva, 1986., Nauka. Pp. 3-46.
- Skinner, N.: North Bauch Chadic Languages: Common Roots.= *Afroasiatic Linguistics* 4/1 (1977), 1-49.
- Skinner, N.: Body Parts in Hausa - Comparative Data.= Ebermann, E. & Sommerauer, E. R. & Thomanek, K. É. (eds.): *Komparative Afrikanistik: Sprach-, geschichts-*

- und literaturwissenschaftliche Aufsätze zu Ehren von Hans G. Mukarovsky anlässlich seines 70. Geburtstags.* Wien, 1992., Afro-Pub. Pp. 345-357.
- Starostin, S. A. & Starostin, G. S. & Dybo, V. A. & Dybo, A. V. & Helimsky, E. A. & Militarev, A. Ju. & Mudrak, O. A.: *Basic Nostratic-Afrasian-Sino-Caucasian Lexical Correspondences*. MS. Moscow, 1995.
- Stolbova, O. V.: Opyt rekonstrukcii verhnenezapadnočadskih kornej.= *Jazyki zarubežnogo Vostoka. Sbornik statej*. Moskva, 1977., Nauka. Pp. 152-160.
- Stolbova, O. V.: Sravnitel'no-istoričeskaja fonetika i slovar' zapadnočadskih jazykov.= *Afrikanское istoričeskoe jazykoznanie. Problemy rekonstrukcii*. Moskva, 1987., Nauka. Pp. 30-268.
- Stolbova, O. V.: *Chadic Laterals and Their Correspondences in Semitic and Egyptian*. MS. Paper presented at the International Symposium "Chadica et Hamitosemitica" (Frankfurt a/M, May 1991). 9 p.
- Stolbova, O. V.: Lateral Sibilants in Chadic (Reconstruction) and Their Correspondences in Semitic and Egyptian.= Ibrizimow, D. & Leger, R. (eds.): *Studia Chadica et Hamito-Semitica*. Köln, 1995., Rüdiger Köppe Verlag. Pp. 58-64.
- Stolbova, O. V.: Kornevyje varianty v čadskih jazykah.= Koval', A. I. & Vinogradov, V. A. (eds.): *Problemy izučeniya jazykov Afriki. Materialy konferencii, posvjaščennoj 30-letiju otdela afrikanских jazykov*. Moskva, 1995., Institut Jazykoznanija Rossijskoj Akademii Nauk. Pp. 148-155.
- Takács, G.: Aegyptio-Afroasiatica III.= *Discussions in Egyptology* 34 (1996), 117-122.
- Takács, G.: Egyptian Lexics in an Afrasian Perspective: New Etymologies.= *Studia Etymologica Cracoviensia* 1 (1996), 125-171.
- Takács, G.: Afro-Asiatic (Semitic-Hamitic) Substratum in the Proto-Indo-European Cultural Lexicon?=*Lingua Posnaniensis* 40 (1998), 141-172.
- Takács, G.: Review of Dolgopolsky, A.: The Nostratic Macrofamily and Linguistic Paleontology.= *Lingua Posnaniensis* 41 (1999), 181-188.
- Vergote, J.: *Phonétique historique de l'égyptien*. Paris, 1945., Le Muséon.
- Vycichl, W.: Ägyptiaka. Beiträge zur vergleichenden Hamitosemitistik.= *Wiener Zeitschrift für die Kunde des Morgenlandes* 40 (1933), 171-180.
- Vycichl, W.: Hausa und Ägyptisch. Ein Beitrag zur historischen Hamitistik.= *Mitteilungen des Seminars für Orientalische Sprachen an der Friedrich-Wilhelms-Universität zu Berlin* 37 (1934), 36-116.
- Vycichl, W.: Der Umlaut in den Berbersprachen Nordafrikas. Eine Einführung in die berberische Sprachgeschichte.= *Wiener Zeitschrift für die Kunde des Morgenlandes* 52 (1955), 304-325.
- Vycichl, W.: Grundlagen der ägyptisch-semitischen Wortvergleichen.= *Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo* 16 (1958), 367-405.
- Vycichl, W.: Is Egyptian a Semitic Language?=*Kush* 7 (1959), 27-44.
- Vycichl, W.: Les études chamito-sémitiques à l'Université de Fribourg et le "Lamekhitique".= Cohen, D. (ed.): *Actes du Premier Congrès International de Linguistique Sémitique et Chamito-Sémitique*. Paris, 1974., Mouton. Pp. 60-67.
- Vycichl, W.: *Dictionnaire étymologique de la langue copte*. Leuven, 1983., Peeters.
- Vycichl, W.: Das Zeichen für d "Hand" in der Hieroglyphenschrift und die semitischen Entsprechungen des zugrunde liegende Etymons.= *Zeitschrift für Ägyptische Sprache* 112 (1985), 169-179.

*Afrasian and Nostratic: Addenda*

- Vycichl, W.: *La vocalisation de la langue égyptienne. Tome I<sup>er</sup>. La phonétique*. Le Caire, 1990., Institut Français d'Archéologie Orientale.
- Ward, W. A.: Comparative Studies in Egyptian and Ugaritic.= *Journal of Near Eastern Studies* 20 (1961), 31-40.
- Wb = Erman, A. & Grapow, H.: *Wörterbuch der ägyptischen Sprache*. I-V.<sup>2</sup> Berlin, 1957-1971., Akademie-Verlag.
- Weibugué, Ch. & Palayer, P.: *Lexique lele-français*. Sarh, Tchad, 1982., Centre d'Études Linguistiques.
- Wölfel, D.: Eurafrikanische Wortschichten als Kulturschichten.= *Acta Salamanticensia. Filosofia y letras* 9/1 (1955).
- WUS = Aistleitner, J.: Wörterbuch der ugaritischen Sprache.= *Berichte über die Verhandlungen der Sächsischen Akademie der Wissenschaften zu Leipzig, phil.-hist. Klasse* 106/3 (1963).
- Zaborski, A.: Biconsonantal Verbal Roots in Semitic.= *Zeszyty Naukowe Uniwersytetu Jagiellońskiego. Prace Językoznawcze* 5 (1971), 51-98.
- Zima, P.: Songhay and Chadic in the West African Context.= Mukarovsky, H. G. (ed.): *Proceedings of the Fifth International Hamito-Semitic Congress. Band I*. Wien, 1990., Afro-Pub. Pp. 261-274.
- Zyhlarz, E.: Ursprung und Sprachcharakter des Altägyptischen.= *Zeitschrift für Eingeborenen-Sprachen* 23 (1932-1933), 25-45, 81-110, 161-194, 241-254.
- Zyhlarz, E.: Konkordanz ägyptischer und libyscher Verbalstammtypen.= *Zeitschrift für Ägyptische Sprache* 70 (1934), 107-122.

## Other publications by Lingua Franca:

*Learning lessons: Innovations in teacher education and assessment.* Edited by Marianne Nikolov and József Horváth. 1996.

*A nyelvtanulás folyamata és mérése.* [The process and assessment of language learning]. Edited by Péterné Deák and Györgyi Máté. 1997.

*Advanced writing in English as a foreign language: A corpus-based study of processes and products.* By József Horváth. 2001.

*Színes eszmék nem alszanak: Szépe György 70. születésnapjára* [Colorful ideas never sleep: On the 70th birthday of György Szépe]. Edited by József Andor, Tibor Szűcs and István Terts. 2001.

*A nyelv nevelő szerepe: A XI. Magyar Alkalmazott Nyelvészeti Kongresszus előadásainak válogatott gyűjteménye* [The educational role of language: Selected papers from the 11th Hungarian Congress in Applied Linguistics]. Edited by Ágota Fóris, Eszter Kárpáti and Tibor Szűcs. 2002.

*Studies in English Theoretical and Applied Linguistics.* Edited by József Andor, József Horváth and Marianne Nikolov. 2003.

*Language as Cognitive Adaptation. From Language Evolution to Language Change.* By Gábor Győri. 2005.

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